

# Sustainability Sharing Series

## Lowering the carbon impacts of ICT

ICT serves as both as a solution to and a culprit of carbon emissions. HE and FE institutions can make significant cost savings and reductions in their carbon footprint by implementing various smart ICT initiatives across their existing estate, or using ICT to encourage staff and student behaviour change. These initiatives can reduce carbon emissions, save money, and improve your institution's sustainability potential and reputation.



### Challenges and needs

There are common challenges across institutions when trying to tackle the carbon impacts of ICT:

#### Issues

- Sustainability technology not delivering savings which reduces support for future initiatives
- Funding cuts that can result in staff and resource restrictions
- Disjointed stakeholder engagement without sustainability champions in appropriate areas
- Lack of awareness and knowledge of sustainable ICT options within procurement teams

#### Needs

- Culture shift to sustainability to help drive the change across the institution
- Government directives and monitoring to help push for change
- Budget holders and decision-makers to buy-in, in order get it on the agenda and make progress
- Improved information sharing especially between ICT and energy teams

### Opportunities

#### Hardware and System Changes

Often low to no-cost hardware-related solutions can be used to quickly reduce ICT carbon usage with quick cost savings. These can include altering the default settings across the network or installing software or application managers to control behaviour. Other hardware changes can cost more to implement, such as changing server location or switching to cloud services, however the cost and carbon savings impact are potentially greater.

Examples include:

- Duplex and black only printing and copying — set as default across network offering quick cost savings and paper wastage reductions
- Thin client technology — compact size, lower cost and less energy required to operate
- Cloud computing — outsource data storage which can be cost effective and frees up physical space
- Automatic shutdown of PCs not in use — this initiative is often free to implement and highly effective offering instant energy and cost savings
- Virtualisation — by creating virtual versions of actual hardware it helps to reduce hardware requirements with both operational and energy savings
- Procure temperature tolerant equipment or utilise natural cooling opportunities— help reduce server and data centre costs by lowering energy use in cooling

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**Servers and data centres use the most energy —  
by addressing temperature requirements, physical location and utilising  
cloud solutions, institutions can save £££ and reduce carbon footprint**

## Partnerships and Collaborations

Work with staff and student groups to help communicate and spread the message of how they can contribute. This can include student associations, residence halls and sustainability societies and groups to help reach students. Engage with teaching staff as potential learning opportunities.

Utilise the resources you have at your institution, such as marketing teams, to help create powerful awareness posters or social media campaigns.

There is also possibility for external collaborations, such as shared networks or data centres, to help share costs and resources.

## Reduction through Engagement

It is important and necessary to engage with staff, students and contractors — such as cleaners or security teams — to encourage energy saving behaviours such as turning off lights, monitors and PCs for sustained change. To embed sustainable ICT behaviours in your institution you could:

- Use initiatives such as energy detectives to identify waste
- Provide access to real-time energy usage data or carbon impacts on screens around campus
- Run competitions between departments to lower energy usage through ICT, particularly out of hours
- Encourage hot-desking to improve space utilisation and network loads
- Utilise communication campaigns to spread awareness.



## Interesting Resources and Guides

- [SUSTE-TECH Project](#) — Resources and tools to improve ICT related energy consumption in UK HEIs by encouraging the use of alternative sustainable ICT equipment, examining sustainable alternatives in ICT design, manufacture and disposal and look at behavioural change in ICT users
- [SUSTE IT Carbon Accounting Tool](#) — The tool calculates how much energy (kWh), carbon (CO<sub>2</sub>) and money (£) is spent on ICT related energy use.
- [IT Department Sustainability Engagement Guide](#)
- [Case Study: Perth College - WEEE Centre and 'How To' Guide](#)
- [GeSI - Evaluating the carbon-reducing impacts of ICT](#)
- [EAUC-S and Resource Efficient Scotland \(RES\) — Energy Efficiency Technologies Catalogue](#)
- [EAUC Conference 2016 - Exchange presentation - Data Centre Anywhere](#)

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