

Tips for Low Carbon ICT

A good starting point is to always to start with the measurement, and find out exactly what's drawing the energy on your site. Here we have compiled a list of simple steps that can be taken to reduce your ICT footprint:

1. Alter options and settings on your existing equipment to optimise efficiency and cut out unnecessary usage:
 1. Turn off equipment when it is not being used and utilise power management settings e.g. set a predetermined time for equipment to be shut down after office hours.
 2. Dim the colours on your screen – bright colours can use up to 20% more energy than darker ones.
 3. Use sleep mode when inactive (again, set a defined period of time for this to occur automatically).
 4. Turn off Bluetooth and wireless settings when not being used.
 5. Set your printer settings to draft, black and white and duplex as default.
2. Behavioural changes to bring about savings:
 1. Reduce the amount and size of emails sent. Sending and storage of these emails requires significant amounts of energy, so regular housekeeping e.g. deleting unwanted emails and files, removing unnecessary attachments and sharing files more efficiently can reduce this.
 2. Extending the refresh and replacement cycle of computers can reduce your company's environmental impact and reduce your capital costs by 20-40%. Money that would have been spent replacing computers can then be invested into other green ICT project that may have been otherwise unaffordable. (You may think that time spent repairing faults is costly, and you may as well purchase new, but consider the time spent setting up and reconfiguring new equipment). Try to avoid fixed term deals and cater more specifically to your needs.
 3. Using tools such as video and audio conferencing can eliminate the need for business travel.
 4. Encourage staff to work from laptops rather than desktops, which use on average 41% more energy, and use only one screen/monitor.
3. Purchase newer and more efficient equipment and install better server systems:

1. Use 80 Plus Gold Standard power supplies. 80 Plus is the standard for power supplies in computers and requires that the computer power supply to be 80% or greater efficient at 20, 50, and 100%.
 2. Use Energy Star certified equipment, which has to comply with more stringent energy efficiency criteria.
 3. Ensure servers are designed specifically for particular applications – ask your server vendor for help with this (can reduce energy usage by up to 30%)
 4. Use blade servers – a stripped down server computer with a modular design optimised to minimise the use of physical space and energy. They consume about 10% less power than rack mounted servers.
4. Data centre design and cooling:
1. Ensure that your data centre is designed only to provide enough space, power and cooling adequate to your needs. Over-provisioning will be inefficient and sufficient monitoring can help you to avoid this.
 2. Optimise temperature and humidity setting.
 3. Reduce server cooling demand by zoning your data centre for different temperature requirements and arrange equipment in parallel “hot aisles” and “cool aisles”.
 4. Make sure power draw from servers is proportionate to utilisation e.g. can you consolidate multiple servers that are running for small numbers of users?
 5. Consider server virtualisation – this reduces the amount of servers needed and can increase server utilisation to between 60-80%.
 6. Consider re-using waste heat produced by servers e.g. using heat pumps to recycle.
 7. Consider implementing fresh-air cooling.

If this interests you and you want to look more in depth, check out Bristol's Green Addict site for more information.