

Reducing the IT carbon footprint

IT becoming more environmentally friendly or 'green' can have a significant impact on energy consumption. Currently IT energy usage is vast and is responsible for the equivalent of the airline sector, 2% of global CO₂ emissions¹. Therefore, it is important that everyone involved in this area, including architects of data centres, technical leaders, project managers and team members have an understanding of the environmental impact of their projects. Although there is limited impartial advice, IT staff can reduce waste and energy consumption and try to source more environmentally responsible suppliers.

Recent research by Siemens financial services² have show that only a quarter of UK firms have taken steps to measure their carbon footprint although slightly more, two fifths have taken steps to reduce their emissions. They therefore outline that a clear strategy, based on independent advice, to on the technologies and procedures to reduce the impact of computer, network and communications equipment is necessary.

Five tips for more environmentally sustainable IT³

1. Increase server and storage utilization. Installing more up to date equipment to use less power and taking advantage of virtualisation can greatly reduce the need for additional servers.
2. Print less, to save electricity and paper. If printing is required consider printing extracts only, or use both sides and switch to recycled paper. Also laser printers can produce slightly toxic fumes and use of inkjet can reduce this.
3. Use energy efficient LCM screens for desktops as they use less electricity than CRT monitors. Also desktop computers use more energy than more than thin clients. Use a client computing model that sees applications hosted on a central server which is accessed by lower-power desktop systems.
4. Power management either enforced through centralised IT management to shut down systems when not in use or simply encourage employees to adopt good practice to apply standby features and shut down computers at night.
5. Teleworking can reduce energy consumption, especially fuel if workers are travelling using their vehicles. In addition, teleconferencing can reduce energy consumption of unnecessary flights and car journeys, and with the right equipment can facilitate effective meetings.

Banking Initiatives

HSBC is one organisation that is showing that adopting environmentally responsible issues can achieve improvements in IT and provide cost as well as environmental benefits.

¹ Computing 21 February 2008 Editorial comment page 4

² Computing 7 February 2008

³ ibid

The bank has implemented for desktops software that enables systematic switch off of equipment when not in use to save energy. This is carefully configured, to allow files that are open, to be closed in the correct sequence.

Virtual boardrooms are also being trialled with the aim to reduce international travel. The technically advanced offices each costing £50,000⁴ provides facilities to engage staff in a more realistic way.

The energy efficiency of data centres is also being benchmarked to reduce energy consumption, as well as the incorporation of renewable energy devices in certain locations, such as solar cells and wind turbines to non-critical operations, to ensure that cooling costs are reduced. Even the design of data centres is being carefully considered allowing where possible a natural flow of cooling to occur, driven by convection, and further reduce the reliance on energy consumption.

Banks are also at the forefront of sourcing more energy efficient equipment, moving towards paperless offices. 'With the development of carbon tracking technologies, real-time power monitoring and smart building systems the IT department has a major role in shaping the organisation's environmental policy.'⁵

Energy Benefits

One of the main areas of benefit to business is the management of energy. While many organisations have started to invest in green IT and have started to invest in data centre virtualisation, video conferencing and e-commerce, the next generation of technologies may be far more significant.

For organisations these may include remote sensing equipment to reduce consumption. Intelligent transport technology, for commuters' vehicles would allow vehicles fitted with real-time routing systems to reduce emissions by avoiding traffic congestion.

BT's telecommuting scheme allows workers to work from home or their current base and currently saves 180million as well as an average travel reduction of 193 miles.

The use of solar-powered satellites with virtually no-emission can also replace the high power usage of terrestrial communications masts.

Developing a green IT environmental policy can not only have an impact on using less resources but is seen as good approach to promote companies. Importantly it is good for business using less energy; it is not only environmentally friendly it is responsible and should therefore be part of best practice.

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⁴ Computing 12 July 2007

⁵ Computing 21 February 2008