

A Green Manifesto for UK plc

Adoption of greener technologies and how we use them provide answers to several political, economic, social and technological challenges

ICT is the lifeblood in the UK's economy. It enables all organisations, including government and business, to unlock value, reduce costs, and provide value for money to the customer and citizen alike. But whilst competitiveness, enterprise and innovation are always important business objectives, people's economic and social wellbeing are also improved. Enterprises generate growth, provide jobs and create wealth, which through taxation provides government with a steady income to develop socio-economic policies. All these benefits are a compelling reward for future government to pay particular attention to its own, and business ICT needs.

Damage to the environment

The harm we have already wrought on the environment is staggering! According to data derived from the OECD's ten official indicators used to measure environmental damage, the global emission of carbon dioxide has risen 88 per cent since 1971 and is expected to rise another 52 per cent by 2030.

Municipal waste has risen from 100 million to 650 million tonnes between 1980 and 2005, which works out at around 550 kg per inhabitant in OECD countries. 62 per cent of municipal waste is buried in landfill sites whilst only 27 per cent is recycled.

In the UK, we already have a chronic housing problem caused, in part, by the shortage of land available for building. The demand to find landfill sites at the expense of the green belt only adds pressure to this spiralling problem. Evidence that the UK is now dumping its unwanted rubbish across developing countries also tares our credibility when participating in international debates on the environment.

We are all to blame for this sorry state of affairs. Industrialised countries continue to pursue aggressive policies on burning fossil fuels such as oil or coal to meet national energy demands; the amount of EU regulation on product labelling and packaging is still outrageous; businesses remain focused solely on the economic viability of products and services to satisfy their investors and shareholders; and the rest of us - consumers - still have an ongoing love affair with power intensive technologies. If we are really serious about restoring Nature's fine balance by meeting the needs of the present generation without compromising the ability of future generations to meet their own requirements, we should all take responsibility now and act upon our good intentions without further delay.

Challenges for IT-run organisations

Energy consumption: The total power and heat output of computers, servers and peripherals such as printers, continues to have a negative impact upon the environment. Standard desktop computers alone use around 99 per cent of their power for cooling and just 1 per cent to think! Added to this, the Carbon Trust estimates that UK businesses waste some 10-20 per cent of energy they buy through poor controls.

Organisations are facing a real prospect of energy rationing as consumption continues to increase year on year. Unless IT users and suppliers find a way to reduce power consumption, we will not have enough electricity supply to ensure business continuity.

Data centres are most at risk, since their modern high-ended servers contain a higher density of hotter components that require more cooling, even though they are designed to consume less energy when processing data. Today, 70 per cent of the cost of managing servers revolves around power and cooling. Computers and monitors also account for half of the electricity used in a typical office. With approximately 10 million personal computers in UK offices, it is estimated that 1.8 million are regularly left switched on overnight, wasting 1.5 billion kWh of energy. That amounts to approximately £115 million wasted in the UK every year.

Good housekeeping and optimisation of existing IT is essential and must be measured against how much power the organisation actually consumes. IT and facilities managers should work coherently to understand power loads and the distribution of airflows, and to source renewable energy whilst ensuring good interruptible power supplies. Between April 2005 and March 2006, the total number of customer interruptions in the UK's National Grid was around 21 million, with 1,966 million customer minutes lost. Both business continuity and security become issues when power supplies are regularly interrupted.

Waste IT – reduction and recycling: Globalisation, dynamic business processes, faster technology, and content rich media have all convinced us that everything we do should be done immediately. Products and services are tailored around this concept. As a result, we have become a throw away society with scant regard for the environment around us. Until recent EU legislation, most organisations really gave little thought to the responsible disposal of unwanted IT.

Corporate practices on dealing with reducing and recycling IT waste may now be well intended, but they are often disjointed. Take printers, for example. Businesses might shred unwanted waste paper, but can they really guarantee that the waste does not end up as landfill? Probably not. Despite the OECD's estimation that commercial organisations use between 3,000 and 3,500 million cubic metres of wood each year, which is having a huge negative impact on the world's forests, we still care very little for the amount of paper we use. Not many printers are adjusted to print on both sides of a sheet of paper. Such piecemeal approaches to IT waste management do need coherence in order to give strength and depth to an organisation's eco responsible culture.

New UK regulations on the disposal of waste electrical and electronic equipment have awakened more opportunities to save money and see other efficiencies from direct and indirect recycling as well as better asset management. Extending asset life has an immediate and sustainable effect and optimises cost, performance and use of resources. Over a 5-year period, organisations could put up to 30 per cent of IT back into their business and associated savings could be as high as 90 per cent on technology capital expenditure.

Waste

Carbon footprint: ICT is responsible for about one billion tonnes of CO₂ emissions every year

-between two and four per cent of global energy - and the public sector is the biggest user of IT in the UK, spending around £12bn per year. Organisations waste around 7000,000 tonnes of carbon because workers do not switch off personal computers and monitors in the UK. This works out at 10 per cent of the UK's climate change levy target set by Kyoto.

As a result, the UK government is looking at how new technologies can help reduce energy consumption and allow for more flexible working. The challenge is for organisations to reduce their carbon emissions, provide cash savings and optimise worker time. Whilst the introduction of carbon credits is helping to drive the UK's strategy, UK industry is also taking a lead. CMA, part of the BCS group, has recently set up the Carbon Intent Project with the Carbon Trust to look at the greener benefits of homeworking, remote call centres and tele-conferencing. BCS also has funding from the Carbon Trust for the development of an energy and cost simulation tool for data centres. The projects are part of the BCS' carbon footprint working group, which aims to stimulate discussion and encourage best practice for the industry on this important issue.

Server virtualisation: Physical servers require energy to manufacture, transport, to run and remain cool. They must be disposed of in accordance with environmental regulations. Server virtualisation is an effective method of eliminating the hardware physical servers require by an average consolidated customer ratio of 12:1. If we started with 1,200 power supplies, a virtual server would reduce them to 100 – a considerable saving on power. And with just one server needed instead of twelve, there is much less IT to dispose of at the end of the product lifecycle.

Strong corporate leadership

Investment bank UBS recently compiled a study that aims to predict how companies will benefit or be hurt by new regulations or consumer choices on climate change. The study recognises that organisations tackling climate change head-on, for example Tesco and Unilever are not only revealing a broader commitment to risk mitigation but are also showing the quality of their risk controls more generally. Strong CR leadership gives sector lead and probably competitive advantage too as stakeholders increase their awareness about eco-issues and want to contribute towards a more sustainable economy.

Smart IT professionals

Experienced and well qualified senior IT managers have a pivotal role to play in leading the organisation on environmental issues as part of a larger fully-integrated CR strategy. They are not necessarily an authority on the environment, but are experts on how IT impacts upon the business. They are effective risk managers who are entirely capable of re-engineering business processes, changing worker attitudes, and promoting cleaner technologies to help develop a more sustainable business without undermining its core activities. Smart IT managers also recognise that products and services are no longer measured just on economic viability, but on social responsibility and environmental impact, the so-called 'triple-bottom line' principle and the basis of green computing.

Civil liberties

There are other legal implications too that have an impact upon how we respond to environmental change. For example, most law abiding citizens despise fly-tipping for its

unsightly and polluting impact on the countryside, but stopping perpetrators is not so easy. Rubbish is illegally dumped somewhere in Britain every 35 seconds on average, with the problem costing millions to clean up. The Department for Environment, Food and Rural Affairs (Defra) says local authorities spend almost £100 a minute cleaning up after fly-tippers .

To combat this problem, Norwich City Council announced in June 2007 the deployment of surveillance cameras in fly-tipping hot spots to help identify and prosecute offenders. The policy will work well if covert surveillance is proved necessary and proportionate to any alleged offences. However, when citizens perceive that 'surveillance' technology is being used against them en masse and for any purpose, including hidden smart tags on wheelie bins to determine levels of household waste, the trust and confidence they bestow on government is compromised and civil liberties becomes an issue. Added to this is the responsible disposal of waste data according to data retention rules, data protection legislation (if personal information is present), which must take into account the rise in electronic crime and identity theft. When organisations fail to erase confidential data from the hard drive of disposed computers, disks or other data capture technologies we seriously do have to question our IT security procedures because we lose the trust of customers, consumers, and citizens when such mistakes become public.

Our adoption of greener technologies and how we use them provide answers to several political, economic, social and technological challenges. Let's get on with it then, and put competitiveness, business enterprise and innovation right at the heart of UK plc.

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