

## ICT: the know-how to make the cut

11 Mar 2008 | Author: [Emily Farnworth](#)



when the chips are down, crank up efficiency

**Information technology is playing an ever greater role in helping us reduce carbon emissions, writes Emily Farnworth**

Of all the industry sectors, information and communication technology (ICT) is emerging as one of the strongest candidates to lead the fight against climate change.

On first glance this may not be apparent – IT consultancy Gartner estimates the sector currently accounts for nearly 2 per cent of global greenhouse gas emissions, – with data

centres alone accounting for 23 per cent of this figure. However, it is worth looking deeper into the story to understand the real impact the sector is having. And we are not just talking about video conferencing.

### **More power, less pain**

With our hunger for information and global connectivity showing no sign of being satiated, it is easy to imagine a world where energy is drained by the proliferation of gadgets and gizmos, products and services. Thankfully the exponential growth in communications and information transfer around the world is not matched by an exponential growth in carbon emissions.

While the processing power of PCs doubles every couple of years, their energy use does not, owing to improvements in efficiency. Furthermore, many producers of ICT equipment have teamed up under the Climate Savers Computing Initiative to achieve a 50 per cent reduction in power consumption by computers in 2010.

Beyond PCs, the growing trend of virtualising data centres can result in up to 70 per cent to 80 per cent reductions in space, power and cooling. And some data centres, such as Google's, are being built near renewable energy supplies and in cooler climes to take advantage of cheaper, cleaner power and natural air cooling.

### **Energy and enterprise**

Not only is ICT becoming more energy efficient, it is supporting increased productivity in the economy. In both Europe and the US, the growth of the internet and ICTs more widely has coincided with a decoupling of energy use from GDP growth, and recent studies have aimed to prove that it is growth in ICT that is causing this trend.

A 2008 study by the American Council for an Energy Efficient Economy has gone as far as to claim that ICT is driving system changes in the US economy such that for every extra kilowatt-hour that has been demanded by ICT, the US economy has increased its overall energy savings by a factor of about 10 – mainly achieved through making business activities more efficient.

Transferring ICT solutions into new places lies at the heart of the sector's potential to fight climate change. A study by the AeA (formerly the American Electronics Association) in 2007 suggested that ICT has a significant role to play in delivering Europe's targets for a 20 per cent reduction in energy consumption by 2020. These figures point to an exciting role for ICT to unlock carbon emissions reductions from other sectors and business activities.

### Smart solutions

Smart meters – made by multinationals like ABB to boutique start-ups like DIY Kyoto – provide the ability to better manage energy in homes, offices and factories. 'Smart grid' systems are being developed by companies like Itron that integrate smart metering, demand response, storage and distribution to enhance reliability of the grid and pave the way for increasing the share of intermittent power sources from renewables. Software that accurately maps forests is being used by **ImageTree**, a company that uses remote sensing imagery software to provide accurate forest inventories and facilitate better forestry management, a crucial tool given that deforestation accounts for 20 per cent of global carbon emissions.

Not forgetting the benefits of telecommunication, a 2006 study commissioned by the European Telecommunications Network Operators' Association and WWF, entitled Saving the Climate @ the Speed of Light, suggested that through a combination of virtual meetings, e-materialisation and flexible working, Europe could save more than 50 million tonnes of CO<sub>2</sub> each year.

Using information and communication technologies to measure and manage energy is likely to facilitate greater emission reductions across industry sectors. ICT has a lot to bring to the table, both in terms of deep emissions cuts and economic prosperity. It is something that until now has been largely overlooked and unexplored and requires a shift in our thinking to realise the benefits. We have the tools and the capability at our finger tips – what we need is to get smart about using them.

*Emily Farnworth is director of The Climate Group. It is partnering with the Global eSustainability Initiative (GeSI) on the first global study on the role of ICT in climate change with the aim of understanding both the direct and indirect carbon impacts of the sector, and assessing the opportunities. The project will report in June. For more information, go to [www.theclimategroup.org/ict](http://www.theclimategroup.org/ict)*

---

### Back to Opinion

---

#### Respond:

Write to the **Editor** at [zara@climatechangeCorp.com](mailto:zara@climatechangeCorp.com).