

CLEAN TECHNOLOGY

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“The big opportunity for the IT industry is using ICT to reduce the environmental impact of the enterprise, supply chain, its products and its services, rather than simply focusing on IT’s own CO₂ footprint” — **Gartner Research**

The IT industry is a major consumer of energy and contributor to greenhouse gas emissions. Information and communication technologies account for 2% of global CO₂ emissions, roughly equivalent to the airline industry, according to a recent Gartner report.

As use of these technologies intensifies in mature and emerging economies alike, IT leaders must place environmental sustainability high on their agenda. Failure to do so will incur the wrath of consumers, green campaigners, investors and the media which are starting to focus the spotlight on technology’s significant and growing carbon footprint.

The pervasive influence of technology and telecommunications is a double-edged sword. On the one hand, society’s growing reliance on technology is spawning massive new data centres and the production and use of ever-increasing numbers of PCs and mobile devices, all of which create more and more emissions. On the other hand, IT has the potential to play a critical role in the war on climate change, to be the white knight.

Information and communications technology companies and IT departments will have to decide whether they want to contribute to — or help solve — one of the greatest problems facing society over the coming decades.

A recent McKinsey report concluded that the IT industry will have to place a premium on creativity and innovation. The industry will need to seek new ways to increase its own energy efficiency while devising solutions to help businesses of all types to reduce their carbon footprint and thereby protect their corporate reputation, secure brand loyalty, reduce costs and establish competitive advantage. The opportunity is huge.

The green issue is clearly here to stay. Companies are going to need leadership talent experienced in addressing energy and cleantech issues. Who are these people and where can they be found? In this newsletter we talk to IT executives who are immersed in finding solutions to the cleantech challenges their companies face.

TALENT TALKS: Views from IT executives



Mark Sunday
CIO of Oracle, USA

IT Companies need to leverage all of their available resources if they are to grasp the challenges of reducing their carbon footprint. Corporate wide, Oracle adheres to the 3Rs, Reduce, Reuse and Recycle.

For several years, the power consumption in our primary data center in Austin had been growing annually at nearly 40%, but by leveraging our virtualization and system lifecycle management technology we've been able to support the growth of our company with essentially the same power we were consuming mid-2006. Furthermore, the data center's support power (cooling, lighting, office, etc.) usage is 50% less than the industry averages. We also save one million gallons of water a year by capturing condensation that is fed back into our own cooling towers.

Oracle was among the first few companies in partnership with the California Energy Commission to demonstrate that power can be reduced during critical periods of short supply. We discovered that our 17% reductions were sustainable and adoption of such programs meets the fundamental requirement that we make choices based on the intersection of what's good for Oracle's business and good for the environment.

In 2008 we recycled 71 tons of waste byproducts and in the past 3 years responsibly retired over 166,000 assets weighing over 1500 tons. As a software manufacturer we moved to electronic delivery and eliminated by 96% the need to print and ship documentation, as well as mandating electronic airline ticketing to save us 15 tons of paper a year. We can all do our part; the important steps are the small ones.



Jim Mazarakis
Former chief technology officer,
T. Rowe Price Group, Inc., USA

A couple of years ago we opened a new electronic IT forum where associates posted anonymous questions on any topic of interest and we committed to answer them within a few days. The first questions we received were questions on company policies, employment practices and more in-depth explanations of company business opportunities. Within a short time after that we began getting questions on our intent to recycle and how could our associates help improve our carbon footprint. It was great to see a grass roots desire to be better users of energy and propose ways that we could do it in a more organized way. Some of those questions helped us devise policies that installed collection bins for plastic bottles and cans in conference rooms and coffee rooms. It also helped us provide paper and newspaper recycling receptacles around the firm.

The desire of the firm to be more environmentally aware helped establish a Green Committee that is looking at different options for reducing our impact on the environment. In addition, another area we manage in IT, Document Publishing, began to look at ways we can increase our use of recycled paper material as well as use printing facilities that use renewable energy.

Lastly a very important step that we took in becoming more energy efficient started about 2 years ago when we looked at new ways to cool our data center expansion. We added about 10,000 square feet of space to our Technology Center and explored the use of water cooled technology, instead of the typical air-cooled options. As a result of our decision to use water-cooled technology we estimate that we will be able to save about \$1 million per annum in energy costs, once the new part of the data center is fully utilized. This was a solution that was great for the firm and a win for the environment.

Every single Google search consumes 6.8 grams of CO₂, equivalent to **57 metres** driven by a Toyota Prius

65% of corporates are **running out** of cooling capacity in their data centres.

The world has **about a decade** to reverse its 150 year record of accelerating CO₂ emission (WWF).

A company switching off 700 PCs every evening would produce an annual saving of 438 tonnes of carbon, equivalent to over **21 full round trip flights** between London and Paris.



Magnus Holmqvist

Director of business innovation and corporate spokesman for Green IT, Volvo IT, Sweden

The environment has always been a priority for AB Volvo. For many decades the company's three core values have been Environmental

Care, Safety and Quality. Volvo IT, a fully owned subsidiary of AB Volvo, employs 7,000 staff and also provides services to companies outside the group, including Ford and Volvo Cars.

Green IT is a key component of Environmental Care and is focused on three things — usage, infrastructure and tools, as well as processes and ways of working.

Usage is about reducing energy usage by innovative IT solutions such as Fleet Management applications. In Europe more than

10,000 trucks have Dynafleet Online and this has saved tens of thousands of CO₂ emissions.

Infrastructure and tools has resulted in the consolidation of data centres: Volvo IT reduced its number from 10 to just two, building CO₂-neutral data centres complete with water cooling and optimal recycling of desktop equipment.

Processes and ways of working is a discipline that every new project within Volvo need to address in order to increase efficiencies, for example finding ways to reduce travel needs and doing Life Cycle Analysis on supporting IT solutions additionally to direct products.



Kah Leng Ng

Head of IT, WWF International, Switzerland

Information Technology is a catalyst which can either accelerate current negative trends or, alternatively, contribute towards sustainable development.

IT contributes a significant 2% of greenhouse gas emissions and of course we should work towards reducing that. But the real question is, how can IT be used to reduce the other 98%? We should focus 2% of our attention on reducing IT's carbon footprint, and 98% of our time on how IT can help reduce overall global emissions. IT can easily help cut CO₂ by 20–30% and even beyond (details of measures can be found in WWF reports on www.panda.org/ict).

“Low carbon feedback” is key — solutions which not only reduce CO₂ directly but also strengthen structures which support further emission reductions. Imagine the impact if IT was to save 1 billion tonnes of global CO₂ emissions (equivalent of 25% of the EU's emissions), thereby triggering a “low carbon feedback” to drive further reductions. For example, more video conferencing equipment makes it more attractive for more people to use it, resulting in accelerated emission reductions. Infrastructure, too, can be enhanced to help with workplace transformation; we should move towards smart buildings, using, for example, improved energy management and advanced cooling technologies.

The opportunities for IT are countless. Green IT is not about doing the same things in an energy-efficient way. It's about doing things differently and innovatively. We should not miss the 98% window of opportunity.



Steve O'Donnell

Former SVP IT Infrastructure, First Data International, UK

The growth of the Internet for commerce, telephony and social networking has resulted in a most unpleasant side effect — a massive

growth in greenhouse gas emissions resulting from huge numbers of computer and network systems. Some are now claiming that the ITC industry rivals the airline industry's carbon footprint. CIOs have to become familiar with terms such as Power Usage Efficiency (PUE) — a measure of the effective compute output from a fixed quantity of energy. Energy costs already outstrip capital depreciation for most IT platforms and it can only get worse as compute density grows.

The key areas for business leadership to focus on are: driving up average equipment (compute, network and storage) utilisation; ruthless decommissioning of legacy, under-used and duplicate platforms; and managing the end-to-end energy efficiency of the systems including cooling and power redundancy as well as computing hardware. Driving down energy usage is non-trivial and the naive are often victims of unintended consequences.

A structured and joined-up approach to energy efficiency can result in materially significant reductions in operating costs as well as major reductions in greenhouse gas emissions. Neither our shareholders nor our children will forgive us for getting it wrong.

About the Information Officer Practice

Formed in response to the rising demand for world-class information technology leadership, Spencer Stuart's fully integrated global Information Officer Practice was the first of its kind. As the market leader in chief information officer searches, we conduct key information technology assignments for Fortune and FTSE companies across all industries.

Our global team of experienced consultants are recognized technology experts and have a comprehensive overview of, and privileged access to the world's leading IT talent. As a result, Spencer Stuart is conducting close to 200 senior-level information officer searches annually. In addition to recruiting CIOs, we provide concentrated expertise across the following information technology functions:

- > Applications Development
- > Architecture
- > E-Commerce
- > Infrastructure
- > IT Security

Spencer Stuart has conducted more than 90 executive searches and board director appointments for clean technology companies in the past few years.

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Publications



The Future of IT Leadership: The Strategic CIO

www.spencerstuart.com/research/articles/1248/

CIOs Patricia Morrison, Motorola, and Christopher Perretta, State Street Corporation, share their perspectives on the current role and how it will evolve within the next 10 years.

CIO Connection, Spring issue

Available spring 2009

Our regular publication for senior technology leaders.

CIO Route to the Top

Available summer 2009

An in-depth analysis of how IT leaders manage their careers.

About Spencer Stuart

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