



Comment Article

360°IT – People power and the new generation

By Clive Longbottom, Service Director, Quocirca Ltd

In my last post, I discussed a few 'quick wins' in terms of improving the energy efficiency of the data centre. But Quocirca believes IT should be taking a far more active role in an organisation's overall sustainability - and I've been researching some really interesting areas that could help push this message.

Given data centres are big energy users, it may be that bringing the point of generation closer to the organisation begins to make sense, lowering distribution losses and making the heat generated available for office and water heating. In many cases, excess power and heat can be sold back to the grid or local housing, making the cost equation even more attractive. Localised co-generation using gas or oil has been an option for some time, but it's still fossil fuel based, which may be an issue for long term sustainability.

However, alternative generation models are on the way - from high-temperature solid oxide fuel cell (HT SOFC) systems like the Bloom Box Energy Server, through the SunCatcher Stirling engine from Stirling Energy Systems (which uses parabolic mirrors to power an external combustion engine), to new-generation solar voltaics such as IBM's gallium arsenide (GaAs) systems that use Fresnel screens to maximise the power of the sun's rays.

Such systems can provide considerable amounts of energy at higher efficiencies and/or from renewable sources - even if they're not universally applicable (for example, solar systems are only viable where you have enough hours of sunlight per day).

But there are other ways of minimising the amount of energy an organisation pulls from the grid itself. Micro-generation may well become a major means of cutting energy consumption - as well as providing further, if somewhat unexpected, benefits.

For example, many organisations currently have powered revolving entrance doors. This obviously requires a motor and power. If the motor is replaced with a generator, the people coming through the door will actually generate energy instead - small amounts, granted, but for a building with, say, 500 workers and 100 visitors per day, even a few watts per person per entry and exit soon adds up to a reasonable amount of 'free' energy.

Again, each door within an organisation will generally have a closer attached to it. Every time the door is opened, the person pushing the door is expending energy - which can be captured. Sounds like a waste of time? One company in Germany with a need for high levels of security is using just such a system to power security on every door. A capacitor stores the energy from the last person to come through the door and uses this to fire the camera when the next person approaches. As they open the door, they recharge the capacitor.

One strange side benefit is that by helping an organisation minimise its energy bills, the staff and visitors are also getting fitter every time they use a door. (You could even try ramping up the amount of energy needed to open a door and sell it to employees as an alternative to visiting the gym!)

How about lifts? They require lots of energy to move upwards, but most of the stored, potential energy is lost through friction brakes (i.e. heat) when the elevator descends. Again, this can be captured and used.

Finally, think about the energy people expend walking around your buildings. There's something that can capture this as well. Special floor coverings use the pressure from people walking over a surface to drive oil through micro-turbines that produce electricity. This technique is being considered for use in London's Victoria train station, and it is expected to

provide enough energy to run all the lights in the station without drawing power from the grid. The more power that can be generated through non-fossil-fuel means, the better. Recovered energy may require an initial capital outlay, but from there on the energy is close to free, barring maintenance costs. All this can help us move towards sustainability - and the commercial and political imperative may be closer than we think.

So where does IT fit in? Well, our organisations will need to manage the various approaches intelligently, ascertaining when we need to use the mains, how best to feed excess power back into the grid where it's practical to do so, and so on. Of course, all of this will require technology.

So be prepared...

About Quocirca

Quocirca is a primary research and analysis company specialising in the business impact of information technology and communications (ITC). With world-wide, native language reach, Quocirca provides in-depth insights into the views of buyers and influencers in large, mid-sized and small organisations. Its analyst team is made up of real-world practitioners with first hand experience of ITC delivery who continuously research and track the industry and its real usage in the markets.

Through researching perceptions, Quocirca uncovers the real hurdles to technology adoption – the personal and political aspects of an organisation's environment and the pressures of the need for demonstrable business value in any implementation. This capability to uncover and report back on the end-user perceptions in the market enables Quocirca to advise on the realities of technology adoption, not the promises.

Quocirca research is always pragmatic, business orientated and conducted in the context of the bigger picture. ITC has the ability to transform businesses and the processes that drive them, but often fails to do so. Quocirca's mission is to help organisations improve their success rate in process enablement through better levels of understanding and the adoption of the correct technologies at the correct time.

Quocirca has a pro-active primary research programme, regularly surveying users, purchasers and resellers of ITC products and services on emerging, evolving and maturing technologies. Over time, Quocirca has built a picture of long term investment trends, providing invaluable information for the whole of the ITC community.

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