

Green clouds on the horizon for computing

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Small businesses could save up to 62% of energy costs by switching to a cloud computing system for their invoicing, according to research published in the International Journal of Business Process Integration and Management. The approach of integrating cloud computing and a more environmentally-aware approach to information technology also cuts carbon emissions, the team reports, and could work with many other services.

Cloud computing has become a commonly accepted outsourcing business model in the last few years. It displaces computing, data processing and storage to remote computer systems rather than a business relying on its own on-site servers and systems. As such, the business can use standard personal computers and tablets to access its data over the internet and so avoid many of the overheads seen with the dedicated, often bespoke, on-site hardware and software. However, there have been concerns that [cloud computing](#) does not reduce energy demands and emissions, but simply displaces them. Moreover, there is the possibility that the increased internet traffic required would have a net effect of increasing energy use and pollution.

Now, Dietmar Nedbal and Mark Stieninger of the University of Applied Sciences Upper Austria, in Steyr, Austria, have assessed the potential synergistic effects of green IT and cloud computing. They have found that both overall costs and [carbon dioxide emissions](#) can be reduced by more than half by exploiting an integrated cloud computing solution while retaining the benefits of integrated [business](#) processes and services at the cross-organisational level that would normally be available only to a

company with its own hardware and software in place.

The team demonstrated proof of principle with an electronic invoicing system for small and medium-sized enterprises (SMEs) based on the cloud service model "software as a service" (SaaS). Businesses that adopt electronic invoicing in such an environment will benefit, the team reports. Moreover, the use of SaaS cloud computing in this context could act as a gateway to handling electronic documents in general, and to related "smart" technologies.

More information: Nedbal, D. and Stieninger, M. (2014) 'Exploring the economic value of a cloud computing solution and its contribution to green IT', *Int. J. Business Process Integration and Management*, Vol. 7, No. 1, pp.62-72

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