

Delivering tangible results

How sustainable IT can produce financial benefits



Computacenter and sustainable IT

Computacenter develops and implements sustainable IT programmes and carbon emission reduction projects for its own business.

Computacenter's own initiatives to reduce environmental impact include:

- Recycling of packaging
- Reduction of electricity consumption at head office by 15%
- Extensive use of teleconferencing
- Increasing use of video conferencing
- Environmental criteria for company vehicles

As an IT partner, Computacenter offers scale, industry knowledge and expertise, and a strong business-centred focus on the environmental impact of IT. Based on real-world results and experience, Computacenter can offer direct assistance with your cost-reduction and sustainability initiatives.

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Profitable companies are sustainable companies

The universality of sustainable principles

Particularly in the current economic climate, environmental concerns are here to stay. Addressing challenges brought about by the downturn requires a harmonisation of sustainability objectives with cost reduction.

Could environmental considerations be used to generate business advantage? Is it possible that a sustainable business is actually a more profitable business? Could a business that abides by sustainable principles be one that operates more efficiently and therefore at lower cost?

‘a sustainable approach to business is one that is both commercially viable and environmentally preferable’

The spectrum of opinion on the role of sustainable practices in business is wide. On one hand there is the perception that sustainable initiatives don't belong in business; on the other hand there are the often-heard cries that we will all die a slow and painful death if we don't do something about climate change now. Somewhere in the middle are those who hold the view that incorporating sustainable principles into business is 'a nice to have,' a luxury, a 'check-box' activity. The problem with these characterisations is that they polarise the issue, and obscure the universality and widely-held acceptance of sustainable principles.

Sustainability implies, quite simply, the ability to operate in a way that meets present needs without jeopardising future needs. This is a principle that all businesses can relate to and identify with as core to economic survival and prosperity, regardless of industry sector, product line or service.

We have long accepted that cost needs to be balanced against revenue. More recently, we've incorporated risk into the equation, recognising that understanding and mitigating risk is crucial to a business' sustainability and survival. We are now at the point where failure to understand and mitigate environmental risk can leave you lagging behind your competitors or put the entire business in jeopardy in the worst case.

It seems, therefore, that a sustainable approach to business is one that is both commercially viable and environmentally preferable.

Sustainability is fast becoming a measure of efficiency and good corporate performance and can assist organisations to identify the latent inefficiencies in their business processes.

A 2007 Goldman Sachs study* revealed that companies in certain industries – energy; mining & steel; food & beverages; pharmaceuticals; and media – considered leaders in environmental social and governance policies have outperformed the general stock market by 25%, with 72% of the companies outperforming their peers since August 2005.

IT can be an enabler, a means of helping organisations to achieve commercially and environmentally sustainable performance. A sustainable approach offers a new perspective, helping businesses to better use IT to drive productivity and performance.

Sustainable IT serves to highlight specific areas for cost-saving and efficiency, revealing new ways to exploit existing investments, and generally helping organisations to find the right balance between cost, risk, productivity, agility, energy efficiency and environmental performance.

This guide describes how you can use a sustainable approach to IT to produce financial benefits, operational efficiencies, lifecycle efficiencies and a reduction in capital expenditure.

Global efficiency savings of more than €500 billion

“If global businesses systematically used ICT to realise all of the solutions indicated in the report they would unlock global energy efficiency savings of over €500 billion.”

The Climate Group and the Global e-Sustainability Initiative (GeSI), June 2008

* Goldman Sachs Global Investment Research, GS SUSTAIN, 22 June 2007



Cost Reduction

Sustainability means low-cost computing

Business impact of sustainability

It is estimated that IT consumes 4% of UK energy. The IT industry is proactively taking steps to reduce its own environmental footprint.

At the same time, IT has a large and significant role to play in helping other industries reduce their footprint and to achieve cost reduction and operational efficiencies.

Cutting the energy consumption of your IT estate is one quick and easy first step to reducing operating costs and improving environmental performance. For example, switching off desktop PCs overnight and at weekends can save approximately £50 per system each year in power costs. Multiplied by even a modest number of PCs, printers, faxes, lights, cooling and heating systems, the reduced operational expenses offer an immediate boost to corporate cash flow and, ultimately, profits.

New technology offers greater computing capacity for the same or lower total power consumption. More sophisticated embedded management software reduces stand-by requirements, and advanced virtualisation can replace multiple physical systems with single machines, reducing floor space, cooling and maintenance costs.

Taking the Total Cost of Ownership into account when making decisions about IT can lead to reduced capital expenditure and operational costs down the line.

Detailed financial analysis of IT equipment over the full lifecycle often reveals hidden costs in terms of logistics, power consumption, support, maintenance and other add-ons, such as consumables and peripherals. Smart enterprises recognise that the full lifecycle cost analysis helps them find better ways to own and manage IT systems, from commission through operation to decommissioning.

While equipment acquisition prices tend to decline, environmental legislation is limiting end-of-life options and tends to push costs upwards. Though these costs have always been present, only now are they becoming more visible as separately identified line items in corporate budgets.

As a result, many organisations are now choosing to lease IT equipment, so that environmental end-of-life responsibility returns to the leasing company at the conclusion of the term. An alternative approach is to engage a specialist contractor to manage disposal and recycling at set fees. It is even possible that recycled equipment can be sold, generating revenue to offset against the original purchase. Employing a third party removes the end-of-life business risk, and is likely to offer a more cost-effective and compliant service than relying on a non-specialist internal process.

As landfill sites become scarce and end-of-life duties more onerous, the balance sheet impact of these liabilities will increase sharply and be more fully recognised by management and investors.

Take Action

Have you considered the lifecycle cost and environmental impact of the IT equipment you buy?

PCs consume an estimated 1,800kg of resources during the manufacturing phase and produce approximately 2 tonnes of carbon dioxide equivalent during their lifecycle.

Through its partnership with the Green Electronics Council and its EPEAT procurement framework, Computacenter provides a product selection service to help customers choose IT equipment with the lowest total lifecycle costs.

Global sustainability report predicts savings

“Significant opportunities for emissions reductions ... cost savings can be leveraged by applying ICT to global infrastructure and industry. Through enabling other sectors to reduce their emissions, the ICT industry could reduce global emissions by as much as 15 per cent by 2020 – a volume of CO₂ five times its own footprint in 2020.”

Report published by independent non-profit organisation The Climate Group and the Global e-Sustainability Initiative (GeSI), June 2008.



Continuous Improvement / Innovation

Efficiency will lead to a sustainable future

Use IT and innovation to your advantage

Innovation in all its forms – product, service and process – can deliver exceptional business advantage.

Organisations are always seeking new ways to be first to market, first to respond or first to launch a new product or service.

Much of the underlying business infrastructure required for innovation in modern enterprises is enabled and supported by IT.

‘elimination of paper-based workflows can offer significant cost savings and sustainability advantages’

This same underlying infrastructure, if designed, built, and operated using sustainable principles can also deliver superior environmental performance.

For example, a server virtualisation project can also reduce an organisation’s carbon footprint by allowing additional services to be consolidated to the same system. A data centre consolidation programme designed to rationalise the infrastructure can also halve energy bills with more power-efficient modern technologies.

Service innovation frequently relies on re-using and re-deploying existing data in new ways – such as online shipment tracking or executive dashboards.

The elimination of paper-based workflows can offer significant cost savings and sustainability advantages. Modern IT systems are frequently more than capable of handling additional workload, and the additional power requirement is often dwarfed by the savings in footprint, physical consumption and waste.

Smart enterprises will recognise the unprecedented opportunity to accelerate the development and use of sustainable products and services and will lean on IT for their effective enablement.

Take Action

Are you achieving maximum efficiencies and cost savings in your data centre? Gartner estimates that 35% to 50% of the electricity consumed in data centres is for cooling. The figure is 15% in best-practice “green” data centres.

Computacenter works with its customers to optimise every aspect of data centre facilities and operations to deliver immediate environmental and business benefits.

Helping reduce BT’s carbon footprint

In 2007 Computacenter won BT’s Supplier Innovation Award for helping the company cut its carbon footprint in one of its data centres by 85%. With around 1,400 fewer servers, BT cut energy consumption by more than 5,000kW per hour, which accounts for savings of almost £800,000 per annum.

“Computacenter helped us maximise the financial, operational and environmental benefits of deploying a virtual Windows server infrastructure. The project was a great success and has delivered an even higher return on investment (ROI) than we anticipated.”

Michael Crader, Head of Windows Consolidation, BT





Growth / Business Change

Technology enables successful enterprises

Finding new ways towards efficiency

The ability to manage and respond to change is a critical factor in the success of every business.

Sustainable IT enables organisational, commercial and environmental change. It provides flexibility, and the ability to re-use, re-purpose or introduce new capacity in the most cost-efficient, least intrusive manner possible, as demands arise.

An efficient, adaptable, IT infrastructure that is designed to produce direct business advantage can be used simultaneously to achieve energy and waste reduction, and help meet other, related, environmental policies.

Where appropriate, sustainable IT can help organisations better adapt to the changing requirements of their business in a truly sustainable way – that is, without increasing operational or environmental risk.

New, highly efficient technologies and processes can replace older systems, with a full reconciliation of the total carbon impact of the change.

As web technologies make it easy to connect rapidly and reliably to powerful shared central systems, it has become increasingly important to run a power-efficient data centre able to respond to changing needs.

Investment in high-end PCs – which are not always the most appropriate or secure technology for all types of employees – is now being questioned. Combined with relatively high operating costs (estimated at £3,000 a year), desktop computing may not always be the right choice.

‘efficient, adaptable, IT infrastructure that is designed to produce direct business advantage can be used simultaneously to achieve energy and waste reduction’

A sustainable IT strategy allows existing investments to adapt to change, enabling infrastructure, applications and capacity to be shifted to where they make the most economic sense.

Take Action

Have you considered the savings achievable from print optimisation and print job accounting? Over half of UK office workers admit to mistakenly printing the same document several times.

Computacenter offers a print optimisation and document output management service offering substantial efficiencies.

Recycling for the UK Environment Agency

The Environment Agency’s redundant IT assets are recycled or remarketed by RDC, Computacenter’s end-of-life management subsidiary, with zero IT waste disposed to landfill. The scheme has helped the agency outperform European WEEE recycling targets and strengthen its reputation for leading by example in environmental excellence. The profit from remarketing IT assets means that the service effectively paid for itself in 2007.

“We can ensure that our end-of-life IT assets do not contribute to the UK landfill problem, and are disposed of safely, securely and cost-effectively.”

Mike Oliver, IT Strategic Supplier Manager, Environment Agency





Risk Avoidance

Business risk includes environmental responsibility

Evaluating, managing and mitigating risk

The need for comprehensive risk evaluation in business and the need to proactively manage and mitigate it, is well-established, and is already business-as-usual in the best-managed organisations.

However, management and mitigation of risk is a reactive activity in many organisations, and this is no less the case for environmental risk. A proactive approach to risk management clearly needs to be extended to organisations' environmental performance, especially given the identification of 'Radical Greening' and related 'Reputation risk' as top strategic and operational risks respectively for business.

In the area of sustainability, failure to meet public expectations of environmental performance can have a dramatic and unpleasant effect, and reputations can be destroyed. Without paying proper care to forthcoming legislation, tough climate change regulation targets may be missed. Enterprises failing to meet environmental standards may become an easy target for well-motivated campaigners, and incur heavy financial penalties.

Carbon emission reduction programmes, especially in the IT arena, can be carefully defined and measured, and can bring positive results that contribute to brand reputation.

The hard numbers that can be achieved by a planned sustainable IT programme, such as reduced power consumption, bring clear evidence that sustainability objectives are being met in more than just spirit.

Concerns about the long-term availability of power for data centre operations, with possible brown-outs even in major cities, will also affect business risk. By introducing leaner energy-efficient operations, the collective risk of power rationing is diminished.

Reducing energy consumption, creating leaner business operations and taking on environmental responsibility as part of a corporate commitment to sustainability are sound business propositions and a valid social attitude.



The Independent newspaper ran a story where recycling turned out to be a fiction.
 "How a tagged television set uncovered a deadly trade." *The Independent*, 18 February 2009.
<http://tinyurl.com/cqmvtk>

Take Action

How do you manage end-of-life equipment through reuse, resale or disposal? Legislation and duty of care obligations for end-of-life IT equipment are complex.

RDC, Computacenter's end-of-life management subsidiary, disposes, recovers and remarkets usable equipment. Residual revenue achieved can be used to offset disposal and new equipment costs.

The 2009 Ernst & Young business risk report

- "Risk is... in a constant state of evolution. Risk management must always be seen against the business objectives that are being sought.
- "In leading organizations, risk management is... viewed as a 'management competency' – a discipline that adds rigor and enables the enhanced management of uncertainty and volatility, effectively minimizes threats and capitalizes on opportunities.
- "Companies at the height of performance in their respective industries have [moved]... beyond a traditional focus on controls and compliance to create competitive advantage"

The 2009 Ernst & Young business risk report — The top 10 risks for global business



Access to Skilled Resources

People are the key, today and tomorrow

Placing value on every resource — especially people

Investment in the right resources, particularly people, is crucial for any business. This includes investment in their training, ongoing professional development and long-term retention.

The changing economic climate has led many organisations to implement new technologies that enable smart working by reducing unnecessary travel, while increasing flexibility and employee satisfaction.

The convergence of networks and ready access to high-speed connections has transformed both remote and mobile working, and can produce significant environmental gains.

In the areas of both sustainable IT and advanced workplace flexibility, the demand for organisations and people with technical competence and experience of environmental best practice is high, while supply is still relatively low.

In almost every case, it makes sense to buy environmental advice and consultancy, and to outsource end-of-life, recycling and disposal duties to organisations with existing certifications and capabilities.

Freed from non-core activities, the organisation is able to maintain focus on key marketing, service and business challenges, with outstanding infrastructure that also ensures that environmental obligations are fully met.

Performance drives business debate

As part of the cost reduction agenda brought on by the economic downturn, it is clear that environmental performance is a thread that runs through all the key business issues.

In summary, environmental concerns are driving business behaviour directly as well as indirectly, through cost, innovation, change, risk and access to resources.

For example, EU legislation means that approximately 30 per cent of current UK generating capacity will be closed by 2015, and other closures mean that total capacity will decline by another 10 per cent by 2023.

While energy resources and costs are major operational concerns, end-of-life issues are also emerging as a liability. The Waste Electrical and Electronic Equipment (WEEE) regulations came into force in the UK in January 2007, creating ten prosecutable offences.

The EU strategy is to reduce greenhouse gas emissions by 20% from 1990 levels by 2020, and the Carbon Change Act 2008 has cash flow implications for business, introducing legally binding targets for these commitments, penalties for poor performers and a published league table that will 'name and shame' the worst offenders.

Additionally, a number of updates to WEEE are imminent, as well as new battery recycling, environmental liability and chemicals disposal legislation, and consultations are due on a raft of similar proposals including the Carbon Reduction Commitment.

These changes could add significantly to total business costs.

In uncertain economic times, enterprises that adopt both cost reduction programmes and sustainable principles and practices will be best-placed to compete and win while meeting corporate social responsibility commitments.



Environmentally
Conscious

Genuine benefits from sustainable business

Taking the first steps

What are the benefits to be gained from applying an IT-enabled, sustainable approach to your business?

The latest IT systems are vastly more power-efficient than even recent predecessors. Increased capacity per processor, multi-processor cores, and advanced management software are producing five-fold gains in energy performance.

Combined with virtualisation, it is now possible to replace multiple servers, systems, networks and end-user devices with integrated systems, reducing total power and cooling needs, yet increasing total capacity.

While improving individual component energy performance is essential, there is even more to be gained by considering the entire IT operation, such as the technology, supporting facilities and even the building fabric itself.

For example, Intel reports that it saved more than \$10.4 million by consolidating 3,200 older servers onto platforms using its Quad-Core Intel Xeon processor 5400 series. The figure includes savings from power and floor space reductions, and avoiding possible new data centre construction.

Take Action

Are travel costs and pressures on time propelling your organisation to consider video conferencing and flexible or remote working? In 2004, BT eliminated 1.5 million journeys through the use of conferencing.

Computacenter provides a range of audio visual and conferencing solutions that help organisations save time and money, boost productivity and improve employee satisfaction. We also provide technical advice and consultancy support to organisations looking to adopt flexible or mobile working practices.

‘it is now possible to replace multiple servers, systems, networks and end-user devices with integrated systems, reducing total power and cooling needs, yet increasing total capacity’

In a typical scenario, renewing a rack of 21 servers brings a seven-fold increase in compute capacity, consuming around 10% less power.

By implementing a full audit, many organisations discover that they have redundant systems that can be eliminated with no user impact, or unused applications and data occupying valuable space.

A sustainable IT approach enables a full overview of existing systems and architecture, and identifies cost-effective ways to do more with less.

Ten business benefits from sustainability

- Cost reduction delivers immediate **TCO improvements**
- Energy efficiency reduces **power and cooling costs**
- Capital release produces **cashflow gains**
- CO₂ emissions reduction helps **meet legal obligations**
- Productivity improvement offers **lower cost of computing**
- Operational efficiency introduces **new ways of working**
- Reputational enhancement builds **customer brand image**
- Mitigation **reduces total risk exposure**
- Performance improvement drives **business growth**
- Environmental responsibility protects **tomorrow’s opportunities**

Computacenter offers guidance and results

Computacenter's sustainable IT methodology

Computacenter has developed a sustainable IT methodology, designed to help organisations drive business objectives and achieve the right balance between cost, risk, productivity, agility, energy efficiency and social and environmental responsibility.

Assess performance

The first step on any journey towards a more sustainable business is knowledge. Many organisations operate in a 'black hole' and do not know how much energy they use and how much CO₂ they are emitting – or know the proportion that IT contributes. Without this knowledge, designing and implementing effective reduction strategies are no more than a 'finger in the air' attempt to address the problem.

'The first step on any journey towards a more sustainable business is knowledge'

Transform capabilities

Computacenter helps customers identify areas for improvement. This includes assistance with the selection of more energy-efficient devices, choice of flexible and mobile working solutions, and development of operational and environmental policies. In all cases, Computacenter helps organisations optimise and transform infrastructure and facilities, and proposes the best way to put theory into practice. Where appropriate, Computacenter offers a fully hosted data centre service to make the transition a practical reality.

Manage impacts

The operation and use of IT equipment is associated with large cost, operational and environmental impacts. By taking advantage of a range of Computacenter services and solutions, customers are better able to manage their applications, data volumes, and power consumption – both on the desktop and in the data centre.

Through RDC, its end-of-life IT management subsidiary, Computacenter provides a comprehensive service to assist with managing environmental impacts. This includes helping organisations get the best value from redundant IT equipment, and ensuring compliance with UK and European legislation.

Improve sustainability

Computacenter provides detailed assistance and technical advice on the latest high-performance, environmentally preferable technology through its partnership with the Green Electronics Council and more than 20 years' experience working with leading IT vendors.

In summary, the Computacenter sustainable IT methodology encourages organisations to

- **assess performance**
- **transform capabilities**
- **manage impacts**
- **improve sustainability.**

It establishes an approach towards sustainable business, enabling each organisation to choose the optimal route for its unique IT journey.

Take Action

Do you know:

- the size of your organisation's environmental footprint?
- which departments consume the most energy?
- the contribution of IT to your corporate footprint?

Computacenter's assessment and optimisation solutions give organisations an accurate view of their IT power consumption, identify optimisation opportunities and highlight potential areas for cost and environmental savings.

Sustainable IT procurement

Computacenter offers access to a wide range of technology accredited to the Green Electronic Council's (GEC's) EPEAT framework, which is based on environmental standards such as the WEEE and RoHS directives and the Energy Star certification.

EPEAT products fulfil a range of performance criteria, including energy conservation and the reduction or elimination of environmentally sensitive materials and packaging.

To see more, visit www.epeat.net. Computacenter is the GEC's only strategic ICT partner in Europe.

Ongoing journey towards business responsibility



From individual product selection through to data centre technology and facilities, Computacenter can help optimise your IT infrastructure at every level.

Client Device Audit and Optimisation Service

Clear understanding of CO₂ emissions and power use with recommendations for reduction using power management, selective replacement and user behaviour. Up to 40% reduction in power usage and significantly reduced carbon footprint.

Data centre assessment

Complete efficiency analysis with benchmarks against best practice designed to highlight potential for significant power reductions and cost savings.

Print optimisation

Re-designing and rationalising, with efficiency gains and cost savings from smart consumables management to elimination of redundant devices.

Flexible and mobile working

Gain competitive advantage with secure remote access to information anywhere, any time, boosting productivity. Identify areas for home working, IP telephony, email to mobile devices, video conferencing and more. Reduce travel, power and support costs with advanced collaboration and communication systems.

Desktop power management

Managed auto power off schedules for overnight and weekend, including displays, printers, routers and storage; power management for servers, PCs and displays.

End-of-life management

RDC, Computacenter's end-of-life IT management subsidiary, provides a comprehensive service to help organisations get the best value from redundant IT equipment, ensuring compliance with UK and European legislation.

Application migration

Deployment of high-efficiency server-based applications on new technology able to deliver greater performance at lower total operational costs.

Data management

Cut online data volumes through automated storage tools, moving expired or redundant data to static archive (tape, CD). Reduce the need for new storage devices, which cuts CapEx, and drives down total operational expenses.

Data centre optimisation

Servers, related infrastructure and storage systems that operate 24x7 are major contributors to energy costs and CO₂ emissions, radiating heat that in turn requires significant cooling capacity. Computacenter can help drive efficiency, reduce costs and cut data centre power consumption through reducing the number of servers with planned standardisation, consolidation and virtualisation.

Desktop optimisation

Desktop optimisation provides organisations with flexible and effective infrastructures, with environments that support maximum employee productivity. Introduce portal-based access to applications and data through low-carbon-footprint network and mobile devices, hot desking to minimise device numbers, reduce power with software management, control end-of-life recycling and disposal.

Next steps

- 1 For your free Computacenter Sustainable IT Scorecard assessment**
Contact Tashweka Anderson, Sustainable IT Business Manager on +44 7801 451 843 or call your Computacenter Account Manager
- 2 To receive an invitation to the next sustainable IT event at Computacenter, or to ask a question**
Please email sustainable-it@computacenter.com
- 3 To learn more about Computacenter's approach to Sustainable Business and IT, and how we can help you**
Visit the website at www.computacenter.com/sustainable-it



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About Computacenter

Computacenter is a leading independent provider of IT infrastructure services and solutions. From desktop to data centre, we help our customers minimise the cost and maximise the value of IT to their businesses. We can advise organisations on IT strategy, implement the most appropriate technology, optimise its performance, and manage elements of our customers' infrastructures on their behalf.

Computacenter operates in the UK, Germany, France and the Benelux countries, as well as providing transnational services across the globe.