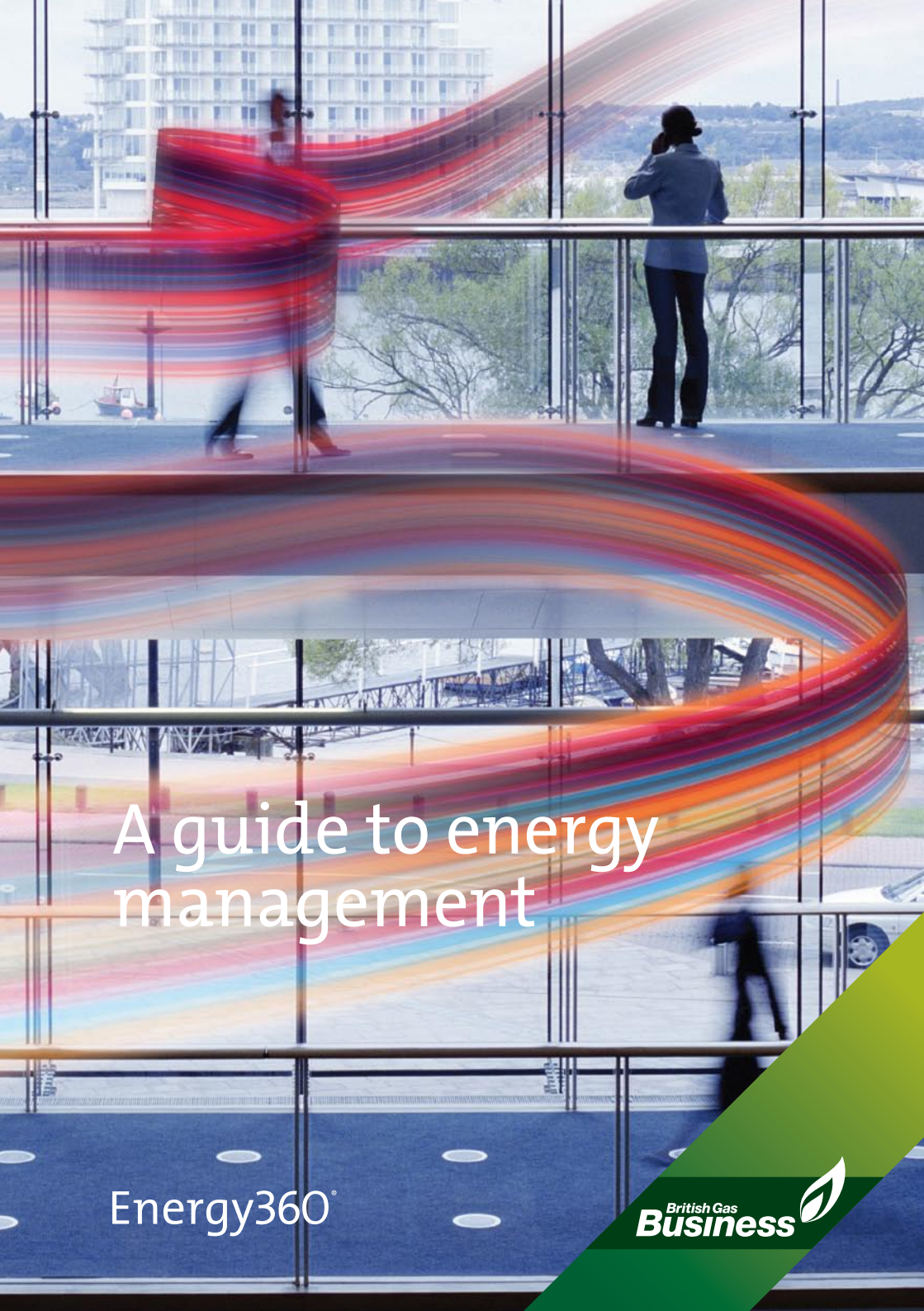

A guide to energy management

Energy360®

British Gas Business

Organisations increasingly need to take a long-term view in investing in measures to become more energy efficient and to reduce their carbon emissions. If they do not, they may fail to keep to environmental laws, meet the pressures to reduce costs, or achieve their own targets for becoming more environmentally responsible.

But energy management can be a complex business, particularly in larger organisations that are based at a number of different sites. Keeping track of where the most energy is being used – and wasted – can be a daunting task, and without this detailed knowledge, it's difficult to identify the efficiency measures that will deliver the most significant cost savings.

British Gas Business has years of experience working with UK businesses of all sizes, in all sectors, to help them become more energy efficient and reduce their energy costs. As a result, we have a deep understanding of the energy challenges different types of businesses face.

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To help organisations manage their energy use more effectively, we've put together this simple energy management guide. It outlines some of the challenges utility and facilities managers face in trying to control the amount of energy they use, and outlines case studies of organisations that have done so successfully. It also gives an overview of some of the most common energy challenges faced by different sectors.

British Gas Business has now launched Energy360™, a complete suite of products and services to help organisations improve their energy efficiency. We're confident that our Energy360 services could help you reduce your energy use by at least 10%.

So if this guide inspires you to take action, visit energy360.co.uk to find out more.

Jeff Whittingham, Energy Efficiency Director, British Gas Business

Energy management: a boardroom issue

Energy efficiency was once something only environment, facilities or utility managers had to consider. Now increasing regulation, a growing focus on corporate responsibility and changes in the economy have made energy management a boardroom issue.

Tackling climate change is a government priority, and many organisations must now meet legal duties to reduce their effect on the environment. For example, larger businesses and some local authorities will need to make sure that they meet the requirements of the Carbon Reduction Commitment from April 2010, which will set challenging targets for reducing emissions.

The current economic climate has also forced both public sector and private sector organisations to keep an increasingly close eye on costs, and energy efficiency measures can form a vital part of wider business aims for efficiency during a recession.

So energy efficiency can help organisations work towards a number of agendas and essential business tasks. But utility managers trying to make their organisations more energy efficient often face two hurdles.

Firstly, many organisations don't have the resources or expertise in-house to identify where they are most inefficient, and so find it difficult to put measures in place to cut the amount of energy they use. Secondly, some organisations are put off by the perceived costs they feel they would have to pay upfront to put energy efficiency measures in place, particularly in a difficult economic climate.

But it's worth remembering that good energy management can save organisations at least 10% on their energy use, and that many energy efficiency measures can pay for themselves within a year or two. So it's well worth making the time to pinpoint where your organisation is energy inefficient now and investing in energy efficiency measures.

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Introducing Energy360

To help organisations cut their energy use, save money and meet regulations, British Gas Business has introduced Energy360, a full suite of services to help our customers monitor and manage their energy use.

Our British Gas Business energy consultants have years of experience across a wide range of energy products and solutions, and can advise an organisation on its energy strategy. They can also recommend products for you to monitor and manage infrastructure, energy use and greenhouse gas emissions.

British Gas Business believes that energy management is more than just about technology; it's also about having the right expertise to make sure that an energy strategy continues to deliver.

Energy360 has been designed to help organisations achieve three main objectives.

Cost Savings

Our energy consultants will work with you to identify cost-saving measures and support your return on investment calculations.

The Law

We will put together tailored strategies for your business to make sure you not only meet your legal and regulatory duties, but actually exceed them.

Corporate Social Responsibility (CSR)

Our technologies and expertise will help you meet your corporate social responsibility goals by cutting your greenhouse gas emissions.

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Energy360: our products and services

Energy360 incorporates a wide range of products, services and consultancy, including the following:

Energy Monitoring

If your company relies on manually read energy meters, you could be spending far more on energy than you need to.

Automatic Monitoring and Targeting (aM&T) allows you to automatically collect information on your energy use, analyse it to make sure that results are in line with the targets you set, and identify where the issues are so that you can take steps to tackle them.

According to research by the Carbon Trust, aM&T can save up to 5% of your energy costs or even more.

Building Management Systems

If you are in total control of your building management systems, you can reduce your energy costs and meet your legal requirements, as well as achieve your corporate social responsibility objectives.

In October 2008, British Gas Business acquired BMSi, one of the country's leading building controls specialists. We can offer a number of energy efficient building management measures, such as efficient boilers, lighting and HVAC (heating, ventilation and air conditioning) equipment.

Energy Certificates

Recent laws relating to Energy Performance Certificates (EPC) and Display Energy Certificates (DEC), as well as inspection schedules for all air conditioning systems, have placed extra pressure on facilities managers. Our energy consultants can save you time and offer reassurance by helping you get to grips with the rules and regulations and managing the whole process, giving you a single point of contact for all your certification needs.

Smart Metering

Smart metering helps you keep your energy use under tight control by allowing you to identify exactly where and when your organisation is using energy. Its real-time energy monitoring can pinpoint energy use to highly specific locations at specific sites, giving you an up-to-date and accurate picture of where your energy is going – and being wasted.

Case studies

energy360.co.uk

Energy360°

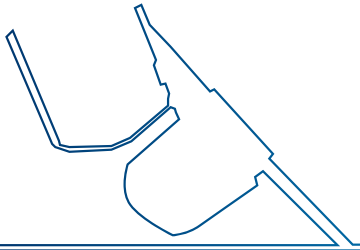
BAA

To give our business customers the very best energy management expertise, British Gas Business acquired BMSi, one of the leading building controls specialists in the UK. BMSi has been providing national coverage for a variety of clients who are each based at a number of different sites, one of which is BAA, which is a great example of the benefits that effective energy management can bring.

For several years, BAA had been investing in energy projects that would help reduce costs – and carbon emissions – setting itself targets even more demanding than Kyoto. In 2003, BMSi engineers became involved in a project to carry out maintenance and reactive work in Terminals 1 and 4 at London Heathrow, as well as BAA's property buildings. The project covered heating, air conditioning and water, amongst other things.

Benefits were realised very quickly. BAA made its money back on Terminal 4 within seven months and Terminals 1 and 4 made energy savings of £673,000 a year. These benefits came from a range of products and services, including the installation of FCC inverters to make sure that fans switched between high and low speeds as conditions demanded, and changes to the heating and cooling system that allowed BAA to switch off systems at night in areas of low traffic.

Carbon reduction at Terminal 4 alone is now 33% ahead of forecast. As an acknowledgement of the successes of the initial projects, BMSi engineers, as well as their maintenance and breakdown activities at Terminals 1, 4 and 5, Stansted Airport and property buildings, are also involved in creating and putting in place fresh solutions to improve efficiency and reduce costs.



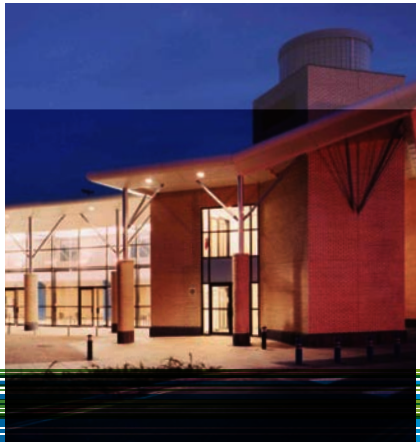
Wolverhampton City Council

Wolverhampton City Council (WCC) looks after the interests of nearly a quarter of a million citizens and more than 6,500 businesses. Its responsibilities make up a complex mix, from schools and council offices to health and leisure centres and law courts. As with other city councils, WCC has a long-standing commitment and responsibility to cutting the costs of energy.

British Gas Business successfully won the tender to introduce a smart metering programme for the council in January 2006, and has to date installed 328 gas smart meter devices for the council. It will also shortly finish installing over 300 electricity smart meters.

By setting up a smart metering operation team, British Gas Business was able to provide a single point of contact for everything from installation, identifying risks and monitoring progress to carrying out an hourly analysis of data. This allowed WCC to identify its exact energy use and pinpoint the time it's used. It also meant British Gas Business could identify opportunities to put in place further efficiency measures and cost benefits, such as identifying sites where energy was being used despite there being no-one in the building.

WCC says that it has already reduced its energy use, both from the efficiencies created by smart metering and by changing its behaviour through increasing awareness within the council that energy use is being monitored. These steps will also allow the council to take advantage of the early recommendations made by the Carbon Reduction Commitment.



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vodafone

Vodafone, one of the world's leading international mobile communications groups, has a number of sites all over the UK, including its head office, data centres, telephone exchanges, high-street retail outlets and thousands of radio base stations in remote locations – making energy management a complex task.

But thanks to smart metering from British Gas Business, Vodafone will have control over its energy use in nearly 8,000 sites, helping to cut its energy costs in the process.

Vodafone's target was to reduce its energy use by 12.5% by the end of the 2008/2009 financial year. However, nearly 60% of the company's energy use was put down to its radio base stations. These remote sites are securely locked, so usually need Vodafone personnel to read the meters, at a significant cost to the business.

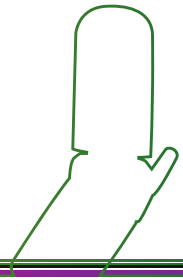
As a result, 98% of the company's non-half -hourly (NHH) energy use was estimated, making it almost impossible to control. In fact, it was suspected that the total billing costs for NHH sites could be incorrect by as much as 5% to 10% a year.

Vodafone, which manufactures the technology that allows smart meters to be read remotely, was actively looking at smart metering options with British Gas Business. The British Gas Business smart metering solution was successfully trialled at 20 sites (19 radio base stations and one retail outlet) before Vodafone gave the go-ahead to extend the trial to 700 sites.

Following the success of this extended trial, Vodafone has made the decision to introduce smart metering in 7,980 sites across the UK.

The results from the first 700 sites have been impressive. Actual energy use has been calculated at 40% less than the previous estimated billing as the first 700 sites were the ones with the highest estimated billing. Across the other 7,980 sites, Vodafone expects the saving to be 5% - 10%.

Vodafone has reduced costs by no longer taking manual meter readings – a saving that will increase when smart metering is introduced to all planned sites. Vodafone now has access to half-hourly energy use updates, which will help the company keep control of its energy use and identify further savings. All in all, the project is expected to pay for itself in less than a year.



Experience

British Gas Business has years of experience working with UK businesses of all sizes, in all sectors, to help them become more energy efficient and reduce their energy costs. As a result, we have a deep understanding of the different energy challenges faced by different types of businesses.

Here's an overview of some of the energy management issues experienced by three of the UK's major sectors.

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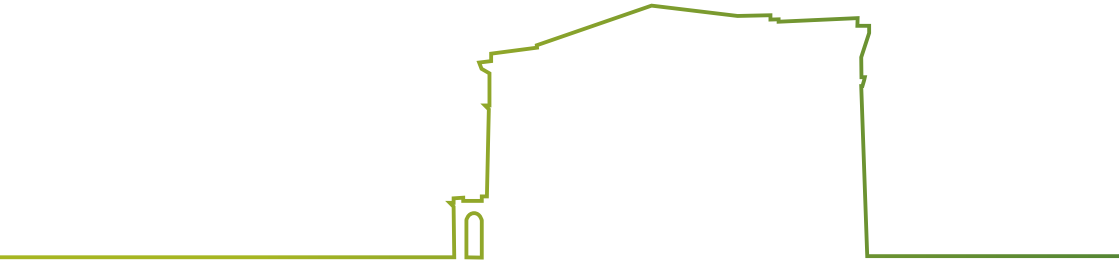
Public sector

It is particularly important for public sector organisations to manage their energy use carefully. Local authorities are increasingly expected to provide leadership in their communities on environmental issues and 'practise what they preach'. Public sector organisations can also work within tight budgets and must make sure they spend public money wisely. Managing energy closely and putting energy efficiency measures in place can help local authorities and public sector organisations to keep costs down, act as positive role models for the communities they serve, and avoid damaging their reputation.

Energy is one of the largest controllable overheads in many local authorities, with an estimated yearly energy use of at least 26 billion kWh. This results in yearly carbon emissions of more than 6.9mt and energy spending of around £750 million a year (source: Office of Government Commerce).

Local authority buildings can also vary a great deal in age and size depending on location and the services they offer. For example, a 19th century town hall will have different energy management requirements – and energy saving opportunities – from a 1960s purpose-built council office.

Due to their permanent status, local authorities tend to plan for the long term and so are in a good position to put in place energy efficiency measures that will pay back savings over a period of years. For this reason, local authorities should not be put off by the initial, upfront costs of energy efficiency measures, as they will almost always save money in the long term.



Retail

Saving energy is one of the easiest ways for retail businesses to increase profit margins without the need to increase sales – even if energy costs are only a small percentage of expenditure.

As well as saving money, managing energy carefully can help retailers achieve their corporate social responsibility goals by reducing greenhouse gas emissions. Consumers are increasingly conscious of green issues and more are choosing retailers that care for the environment.

Retail is a diverse sector, but there are some common areas where energy is often wasted – and where the biggest savings can be made. These include lighting, heating, ventilation, air conditioning and refrigeration. This could vary according to the type of store – for example, food stores will typically spend more on refrigeration.

Retailers can save energy and cut costs through some easy-to-carry-out measures. For example, simply switching off all equipment when not in use can make a huge difference and can be done at a low cost either by staff, or by automatically using timer switches or building control systems. A number of energy efficiency measures can also be carried out as part of routine maintenance procedures. Retailers should also take energy efficiency into account for major store refurbishments, as this can result in significant savings.

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Leisure

The leisure sector uses approximately £700 million of energy each year. In a typical sports centre, energy overheads are second only to labour costs, accounting for as much as 30% of total running costs — a higher figure than in most other sectors.

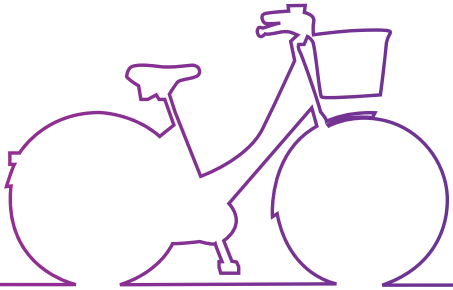
While individual facilities may have relatively small energy bills, these can build up across large business chains, resulting in high combined bills.

As a result, gym and leisure club chains could make significant savings if they introduced energy efficiency measures across all their sites.

To identify areas with the greatest potential for savings, managers need to know where energy is being used and which processes use the most energy. They can then reduce these across all their centres or clubs to make the best savings.

The biggest areas of energy saving potential are heating, lighting, ventilation and air conditioning. Swimming pools use a great deal of energy to heat the water and ventilate the pool hall, while centres without pools use most of their energy on space heating.

As well as increasing profits and enhancing reputation, controlling energy use can help to make conditions more comfortable for staff and customers, by avoiding overheating facilities unnecessarily.



British Gas Business, Britain's leading supplier of energy to businesses, is part of Centrica, a top-30 FTSE 100 company formed in February 1997. Centrica secures and supplies gas and electricity for millions of homes and businesses through a distinctive range of energy solutions and low-carbon products and services.

BMSi, part of British Gas Business, has been recognised at the yearly Building Controls Industry Association (BCIA) Awards and awarded two of the highest-profile awards – energy management company of the year and best service and maintenance provider.

If you have any questions about Energy360 or want more information about our products and services, your British Gas Business representative will be pleased to help – just call 0845 072 0234.

Or you can visit our websites:

britishgas.co.uk/business

energy360.co.uk

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