

# Payback Time

In a recent survey of quantity surveyors, most believed that energy-efficient buildings are more expensive to build than conventional ones. But it isn't necessarily so by any means.

As Guide 274 demonstrates, many quantity surveyors (QSs) overestimate the capital costs of energy efficiency measures (such as external blinds and openable windows) and underestimate the cost savings that can accrue from reduced plant and simpler building services. In fact, energy-efficient buildings can be cheaper to construct and, of course, are cheaper to run than conventional buildings. Even where the capital cost is higher, the extra costs often pay back over a short period - typically in less time than organisations expect investment in their core business to make a return, and with far lower risk.

Rather than seeing his/her role as 'providing the least capital cost option for each element', the QS can best serve the client by obtaining best value for money overall. In environmentally smart office buildings, this means looking at an integrated package of measures which in combination allow the full energy benefits to be obtained. The Guide provides an illustrative example of a value management exercise for an air-conditioned building which brought capital costs down from £1,150 per square metre to £1,095 per square metre. Although fabric costs were increased by 2%, services costs were reduced by 11%. At the same time, predicted annual energy costs were

reduced from £6.80 to £3.80 per square metre, a saving of almost 50%.

To achieve these savings in both capital and running costs, the QS needs to work in close collaboration with several members of the design team, particularly the architect and the building services engineer. Ideally, the QS should be fully involved from the inception of the project, when the brief and energy strategy are being prepared and before the design is fixed in the minds of the rest of the team. The QS has several tasks during the subsequent design process, ranging from value management services to giving cost advice based on an understanding of the building and its services as an integrated whole, rather than as individual elements.

Cost advice needs to be tailored to the investment criteria used by the client. Owner occupiers and many public sector organisations are likely to take a long-term view of the building over its whole life, and for them the QS is well-placed to provide a comprehensive life cycle costing service. Institutional investors and developers, on the other hand, are more likely to be concerned with the marketing benefits and



GPG 274 *Environmentally smart buildings - a quantity surveyor's guide to the cost-effectiveness of energy-efficient offices*

public relations opportunities offered by delivering comfortable and easily controlled buildings.

As environmental awareness rises, 'green' buildings are likely to retain a high market value in comparison to buildings that are profligate in their use of energy. For the QS involved in such projects, there is the satisfaction of contributing to a building with improved quality and value for money, as well as one which has reduced environmental impact and is 'future proof'.

Contact the Environment and Energy Helpline 0800 585 794



For office tenants, energy costs may represent one of the largest slices of your service charge. Is this justified? Here's how to find out.

## Get below the

Energy is a controllable cost not a fixed charge. So how energy efficient is your office? New Good Practice Guide 288 helps office tenants calculate their annual energy consumption and compare it with industry norms for their particular type of office. Typically, up to 20% of the energy used in offices is wasted and could be saved - much of it through simple, cost-effective methods such as adjusting timers and thermostats, and low-cost measures such as better lighting controls and low-energy lamps.

It has often been said that you cannot manage what you cannot measure. The Guide shows how to use your utility bills and service

charges, to work out your annual gas and electricity consumption. You will also need to know your lettable floor area. Using simple conversion factors, the Guide shows how to calculate your electricity and gas consumption figures in kWh per square metre per year. It illustrates four different types of offices, ranging from cellular shallow-plan offices with opening windows, to air-conditioned prestige headquarters. For each office type, benchmark figures are provided for both electricity and gas consumption. Comparing your consumption with the appropriate benchmarks will provide an indication of how energy efficient your office actually is.

World-class businesses such as IBM UK, Barclays and BP Amoco are taking the environmental message seriously, and incorporating energy efficiency into all aspects of their business. Now they have endorsed a Guide to help other businesses reap similar rewards.

## Bottom-line benefits

IBM UK, Barclays and BP Amoco already appreciate the substantial bottom-line benefits to be gained from adopting energy efficiency. Now Good Practice Guide 285 aims to persuade senior and middle managers - whether they are tenants or owner-occupiers - of the value of environmentally smart, energy-efficient buildings.

The Guide addresses two audiences - senior managers, and technical staff and facilities managers. This approach reflects the practical implementation of successful energy efficiency strategies. Having read the Guide, company managers will be able to work effectively with construction professionals and landlords to ensure that the buildings they occupy fulfil all their business needs.

For senior managers, the Guide presents a brief overview of the business benefits to be accrued. These include:

- saving money and improving profit margins
- reducing the environmental consequences of their organisation's activities
- creating working environments that support staff productivity
- making buildings easier to operate and maintain effectively.



GPG 285 *What will energy efficiency do for your business?*

Contrary to popular perception, energy efficiency measures are not expensive to implement. In purely financial terms, investment in energy efficiency measures offers readily quantifiable returns, and at relatively low risk compared to other investment opportunities. And while the bottom-line benefits are easy to see, there are also underlying advantages gained from taking an environmental stand. For example, the company's environmental commitment can be actively promoted in marketing activities.

Achieving the benefits is straightforward - adopting an energy and environmental policy is an excellent way to ensure that these issues become fundamental to all aspects of the business. But perhaps more important is ensuring that design teams, landlords and letting agents are aware of the corporate policy. This can be achieved very simply, by incorporating a standard clause into all commissioning briefs.

For technical staff and facilities managers, there is a wealth of entry-level information on 'how to make it happen'.

The goal of creating an environmentally smart building will not be achieved unless the needs of the business and the occupants are thoroughly clear. A section on 'understanding the workplace' illustrates to the business manager the relationship between an energy-efficient and an effective working environment. The Guide also looks at: identifying the benefits of energy efficiency; creating effective workplaces through its application; establishing the financial case for energy-efficient technologies; and identifying suitable energy efficiency measures for inclusion in the brief.

A successful approach to achieving the company's aims is to specify that the new building or refurbishment should be designed to achieve good practice benchmark targets for energy use. Having done this, project managers should then check that energy efficiency is not compromised when cost-cutting measures are offered, because that will affect operating costs throughout the life of the building.

Selecting energy efficiency technologies, from heating systems to office equipment, is described in some detail, with the business benefits, and design and financial implications clearly explained.

Energy efficiency is a fundamental route to creating healthy and effective workplace solutions. The clear message is: make a positive decision to demand energy efficiency, then make sure everyone is aware of it.

## benchmark

If your consumption is well above the benchmark, the Guide recommends calculating how much you stand to save in fuel bills by bringing it down to the benchmark figure, and shows you how to do so. Reductions can often be made in both tenant's and landlord's consumption. It suggests you address your own energy consumption and discuss with your landlord or managing agent ways of reducing the energy usage they manage on your behalf. You should also try to involve other tenants, since collaboration between landlord and tenants is vital if savings are to be maximised. If investment in building services is required, one way forward may be to share costs and savings.

The Guide contains details of other relevant publications dealing with energy surveys and good energy management practices, lists details for the Regional Environmental and Energy Management contacts, and the government's Environmental and Energy Helpline. It also gives details of Lightswitch, a government-backed initiative that provides financial assistance to small and medium-sized enterprises to install energy-saving lighting controls:

*GPG 288 Is poor energy performance in the office hitting your bottom line?*  
 Contact the Environment & Energy Helpline  
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