

BUSINESS BRIEFING

GREEN BUILDINGS A BEHAVIOURAL CHANGE

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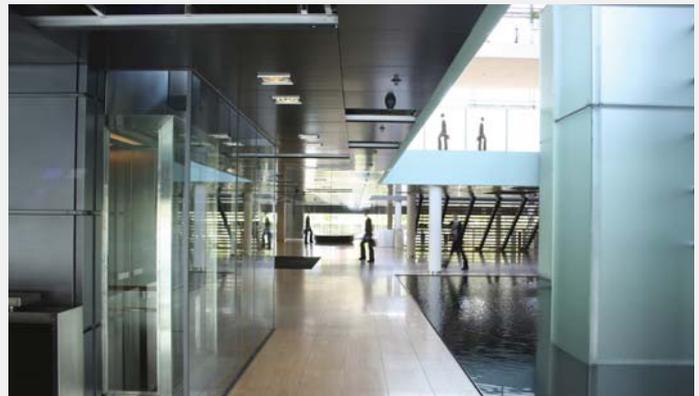
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EXECUTIVE SUMMARY

This report, *Green Buildings – A Behavioural Change*, provides a high-level overview of recent developments surrounding the sustainability of the built environment. It reviews some of the current market thinking in this rapidly expanding area and highlights longer term trends which are likely to be of growing importance to occupiers, landlords and investors across Europe.



THE CURRENT STATE OF PLAY

The property industry's debate about the possible impact of sustainability on commercial real estate has moved on from a discussion of general principles. Sustainability of the built environment is no longer merely a passive item on the CSR wish list, but is quickly becoming an active consideration in traditional cost-benefit analysis. Over the past three to four years an increasing number of occupiers, investors and developers have recognised that green buildings are a business asset and a sound investment in their own right.

National and international certification programmes are setting standards, following in the wake of a rapid increase in the public's awareness of sustainable development. The implementation of the EU Energy Performance of Buildings Directive and, in particular, the introduction of energy performance certificates (EPCs), is providing an EU-wide benchmark. It is now widely believed that new legal requirements, together with voluntary rating systems, will have a growing influence on investment and occupational decisions. Although evidence for the positive impact of sustainability on rental and asset values is not yet comprehensive, there is widespread recognition of growing momentum in this direction.



SUSTAINABILITY – A BEHAVIOURAL CHANGE

Until quite recently, the explanation for why more sustainable buildings were not being built was the so-called ‘circle of blame’. It suggested that occupiers, investors and developers were stuck in a vicious circle, each blaming the other for failing to make the first move – providing, demanding or paying for green buildings. While this may still be true to a certain extent, evidence is now accumulating which suggests the industry has begun to break this circle.

Consequently, both investors and occupiers need to have strategies in place to address sustainability concerns. For the investor, the introduction of EPCs means this is both a legal requirement and an opportunity for enhancing value and saving costs. Perhaps more importantly, having a strategy in place will act as an insurance against future regulatory and market developments that may result in a building’s depreciation or obsolescence over the longer term. On the occupier side, customer and employee perceptions of the company’s environmental credentials are starting to feed into the process of choosing a building. Looking forward, rising energy costs mean that sustainability strategies need to be in place.

Recent evidence across a select number of global markets is beginning to show that green buildings can command higher rents, attract tenants more quickly, reduce occupier turnover and cost less to operate and maintain. Once occupiers have begun to demand ‘green’ specifications as a matter of course, buildings which do not meet the criteria risk seeing values depreciate as a direct result. So, the advantages and premiums green buildings can offer may only continue to be available to the highest quality prime property for a short period.





EPCs AND OTHER POTENTIAL REGULATORY DRIVERS

Despite implementation problems in certain countries, and varying deadlines across EU member states, some 160 million commercial properties in Europe will have to be issued with an EPC (Energy Performance Certificates) by 2009. EPCs are a requirement of the EU Energy Performance of Buildings Directive. Across Europe all commercial buildings over 1,000 sq.m must have an EPC when they are bought, sold or let.

The directive, which the European Union passed into law in 2002, requires member states to ensure that new buildings, as well as large existing buildings undergoing refurbishment, meet certain minimum energy requirements. It also requires that all buildings should undergo ‘energy certification’ prior to sale, and that boilers and air conditioning equipment should be regularly inspected.

The introduction of EPCs has further stimulated the debate on possible future regulatory changes and government initiatives. Proposals include offering incentives for the refurbishment of existing stock with poor EPC ratings and tax relief on green buildings. The European Parliament has recently called on the European Commission to develop a “clear strategy” on the use of market-based instruments for environmental protection. MEPs want the strategy to include measures such as taxation, emissions trading, trade and technology policy, in order to achieve environmental goals. These could all have important ramifications for commercial property.

Buildings are major consumers of energy – approximately 40% of the energy demand in the EU is from within the property sector, in building construction and lifetime energy usage. National and international carbon emission targets are likely to have significant impact on the real estate sector. As a result, the idea of ‘future-proofing’ buildings against both regulatory and market-based developments is now being raised within the property industry.

VOLUNTARY RATING SYSTEMS

There is no fixed definition of a green building at EU level or by any recognised industry body. This is not surprising, as there are many ways of reducing energy consumption and increasing sustainability. However, a number of successful voluntary assessment systems have been developed worldwide and expanded via the various national Green Building Councils and their umbrella organisation, the World Green Building Council.

The two most important rating systems globally are BREEAM, developed in the UK, and LEED, which is assessed by the US Green Building Council. Given the increasing number of multinational companies seeking to implement their sustainability policies worldwide and investors looking to assess their global portfolios, there is a growing need for an international measure of building performance. BREEAM and LEED are starting to meet this demand and have been gaining ground across Europe and other regions.



BREEAM ACCREDITATION

BREEAM (Building Research Establishment Environmental Assessment Method) is the world's most widely used environmental assessment tool for buildings, with over 100,000 buildings assessed, and over half a million buildings registered for assessment in the UK alone. Established by the BRE Trust in 1990, the BREEAM family of assessment services covers building design, construction and operational performance across the major property sectors. The method is based on a range of criteria (Management, Health & Wellbeing, Energy, Transport, Water, Materials & Waste, Land Use & Ecology, and Pollution) for which credits are awarded. These result in an overall score of 'Pass', 'Good', 'Very good' or 'Excellent'.

BREEAM 'Outstanding' is a new top rating for 2008. It features awards for innovation and demands exemplary performance on water and energy efficiency. BREEAM International is a bespoke assessment for companies looking to rate their entire stock worldwide using the same environmental indicator. BREEAM International can also be used to assist in creating a BREEAM based assessment tool for a country or region. Recent highlights include the International Council of Shopping Centers (ICSC) adopting BREEAM as its European sustainability standard. ProLogis, the world's largest owner, manager and developer of warehousing facilities, also announced that it plans to build all its new UK industrial space according to BREEAM environmental standards.



LEED ACCREDITATION

LEED (Leadership in Energy and Environmental Design) was first released by the US Green Buildings Council (USGBC) in 1998. Since its inception, LEED has grown to encompass more than 14,000 projects across the US and internationally, with a total development area of around 100 billion square metres. The rating system is rapidly being adopted internationally, with projects in 41 countries currently in progress. LEED certifies most types of building. Credits are awarded based on five categories of performance (Sustainable Sites, Energy & Atmosphere, Water Efficiency, Indoor Environmental Quality, Materials & Resources) and projects can earn additional points under an 'Innovation & Design' category. The assessment results in 'Certified', 'Silver', 'Gold' or 'Platinum' accreditation.

One major international difference between LEED and BREEAM is that, unlike LEED, BREEAM International is a bespoke assessment. The BREEAM criteria depend on the use of a particular building and include the option of being adapted to suit local circumstances. LEED, on other hand, has a methodology based on homogenous criteria, with less focus on the use of the building. This makes LEED assessments easier and quicker to carry out, especially for mixed-use schemes, although they are not as fine-tuned to individual circumstances. LEED is growing in global popularity and remains the preferred accreditation among US occupiers and investors. Its international recognition is also helped by the fact that China, India and Canada have all adopted LEED under license from the USGBC.



OTHER RATING SYSTEMS

Apart from LEED and BREEAM, there are a number of other notable, mainly national, rating systems in other countries. These include HQE (Haute Qualité Environnementale) in France, CASBEE (Comprehensive Assessment System for Building Environmental Efficiency) in Japan, Green Star in Australia and Minergie in Switzerland.

A number of countries have used existing rating systems (such as BREEAM and LEED) to develop their own, while others are catching up with the establishment of new certifying bodies. Across Europe environmental building standards vary significantly. The residential sector has historically led the way, with many Scandinavian countries well-known for developing high-quality sustainable housing. Despite lacking a national certification scheme for commercial buildings, Germany is a good example of a country that has been at the forefront of energy-efficient building for a number of years and has had energy conservation regulations in place since the 1980s. The German association for sustainable building (DGNB), which was founded in June 2007, is now introducing its own sustainability seal.

There are other bodies which certify the wider environmental performance of companies. The Eco-Management and Audit Scheme (EMAS) is the EU voluntary instrument which acknowledges organisations that improve their environmental performance on a continuous basis. Developed by the US Environmental Protection Agency (EPA), Energy Star is an international standard for energy efficient consumer products, which also certifies the energy efficiency of commercial buildings in North America. By 2007 nearly 4,100 non-residential buildings in the US had earned the EPA Energy Star.



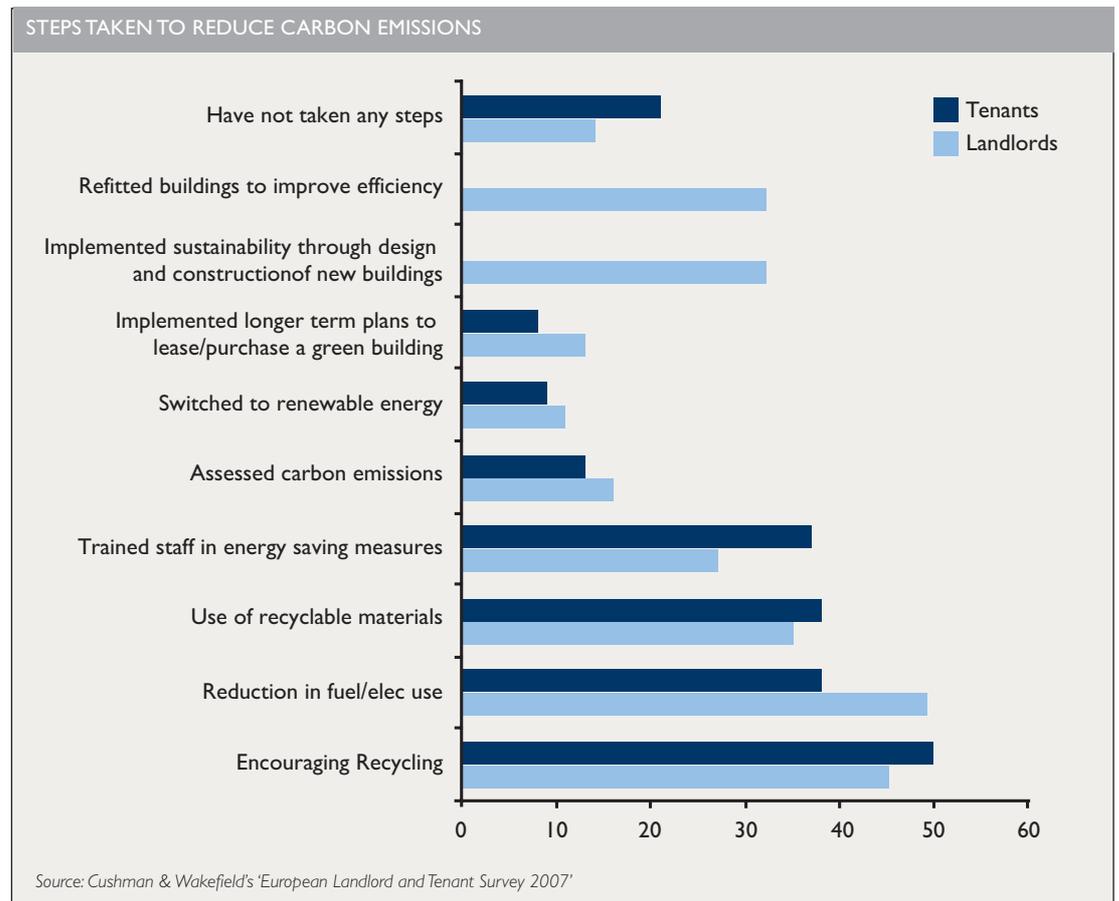
CSR AND OCCUPIER DEMAND

Recent surveys, by Cushman & Wakefield and others, show that there is increasing evidence that tenants view sustainability as a determining factor in their property decisions. Large international companies are leading the way. In response to concerns raised by the media, consumers, employees and shareholders, corporate social responsibility (CSR) agendas are driving the demand for sustainable property. Illustrative of this is the UK-based retailer Marks & Spencer, which aims to increase energy efficiency in its stores by 25% per sq.ft of sales floor. Another good example from the UK is British Telecom (BT), which has a target to reduce company-wide carbon emissions by 80% by 2016.



The vast majority of global corporate occupiers see sustainability as a critical trend, although community and non-financial drivers are still low priorities. A full 77% of respondents to the 2007 CoreNet Global Sustainability Survey ¹ were willing to pay more in rent for a green building; over half were willing to pay up to 10% more. This is a dramatic change from the 11% willing to pay up to 10% more in a similar survey conducted in 2005.

Despite the positive response to surveys, very few landlords and tenants have taken any direct steps with their actual buildings to save carbon emissions. In general, sustainable materials are still low on corporate agendas, in terms of building criteria. Results from Cushman & Wakefield's 2007 'European Landlord and Tenant Survey'² showed that only 13% of tenants and 16% of landlords had assessed the carbon emissions from their office buildings to date and even fewer had switched to renewable energy sources – (11% of landlords and 9% of tenants). Nevertheless, among the 825 senior executives interviewed in the survey, there was evidence that companies had taken small actions, by investing time into saving energy and implementing recycling within their buildings, rather than tackling the bigger issues.



The extent to which companies are prepared to push forward with 'green' agendas varies across sectors and markets. Progress can depend on wider environmental awareness. A case in point is the retail sector, where consumer demand for ethical products over recent years has fed into the wider social responsibility efforts of retailers themselves. Commentators have also pointed to the success of Australia's 'Green Star' accreditation, which has been attributed, among other factors, to the high level of awareness of environmental issues in Australian society generally. There are 60 'Green Star' projects in Australia, among them some of the country's most innovative and prominent buildings.



THE FINANCIAL CASE FOR GREEN BUILDINGS

A number of surveys have revealed lack of supply to be an obstacle facing occupiers considering a green building. Until recently, the additional development cost was thought to be the main stumbling block. However, a 2007 Davis Langdon study³ showed that “there is no significant difference in average costs for green building as compared to non-green buildings”. Several other studies have quantified this and demonstrate that sustainable building initiatives increase the cost of development by less than 5% with very short payback periods. These up-front costs represent a minor proportion of the lifecycle cost of a building’s operation.

The actual cost of constructing a certified sustainable building is often overestimated. In a recent international survey by the Geneva-based World Business Council for Sustainable Development (WBCSD)⁴ 1,423 architects, developers, engineers and contractors estimated the average additional cost to be at around 17% (the real additional cost is about 5%).

In markets where more green buildings are available and tenants have a choice of green or non-green, there is now evidence of rental and purchase premiums being paid for green. The Green Building Council of Australia reported⁵ in 2006 that green buildings commanded 5% to 10% higher rents and have higher relative investment returns (minimum 14% ROI) and asset values (10%).

More recently (March 2008), a US survey of over 1,300 LEED accredited buildings reported energy savings, rental premiums, increase in occupancy rates and sales premiums. The research conducted by the University of San Diego and CoStar⁶ revealed: “LEED buildings command rent premiums of USD 11.24 per square foot over their non-LEED peers and have 3.8% higher occupancy”. Similar evidence for Energy Star accredited buildings showed that: “Rental rates in Energy Star buildings represent a USD 2.38 per square foot premium over comparable non- Energy Star buildings and have 3.6% higher occupancy.”

Crucially, green buildings in both Australia and the USA showed significant savings in water and energy. According to CoStar, the average LEED certified building uses 32% less electricity, 26% less natural gas and 36% less total energy. Productivity gains by employees in green buildings, due to increased well-being and lower staff churn rates, have also been reported and are estimated at between 1% and 25%.

In response to occupier demand, sustainable property funds have been launched by Hermes, PRUPIM, Palmer Capital Partners, Climate Change Capital and others. Hermes has also developed “...a sustainable ratings system that it believes will boost the value of its wholly managed portfolio by £40m. The system measures 90 environmental and social factors, such as renewable energy use and access to public transport, and evaluates the effect of ‘green’ capital expenditure. Hermes said the tool showed that spending £10m on a £50m building would increase its performance by 60 basis points” (Estates Gazette)⁷.





GREEN LEASES

EPCs and voluntary ratings are not only changing the way the energy efficiency of buildings is assessed, but also the tenant and landlord relationship, governed in the widest sense by the commercial lease. Some forward looking occupiers and landlords are beginning to extend the possibilities of this partnership to co-operatively negotiate environmental initiatives. A good example is British Land's Carbon Emission Reduction Charter for its Broadgate estate in the City of London. British Land and two tenants at Broadgate, Herbert Smith and Société Générale, have agreed to reduce annual carbon emissions on the estate.

Savings on energy and water costs, reduced materials usage and the diversion of recyclables provide a common ground for landlords and tenants to address sustainability issues. While an investment in solar panels, for example, may take too long for the payback to be considered in the lease negotiation, there are a number of smaller measures that can be taken. These can be relatively inexpensive to implement but offer considerable cost reduction, increased employee morale and real progress towards CSR goals. The following are some examples of conditions that may be incorporated into an office-sector green lease:

The Landlord is to ensure that:

- There is an environmental building strategy in place to move the location towards a BREEAM rating (building plan)
- All common parts use energy efficient light fittings
- Any energy inefficient plant work or services such as HVAC units, lifts, etc should be replaced in line with EU efficiency standards
- To have professionally set the temperature of heating and cooling for general building comfort (not to be changed by tenants)
- Include sub-meters (in multi-tenanted buildings) to monitor energy consumption for individual pieces of equipment/areas of occupation
- To ensure that all lighting in the building are manual turn on/off
- To purchase at least 25% of the total energy consumption within the building from "Green Energy Suppliers"
- To provide showers facilities in order for staff to cycle/run to work
- To ensure that 10% of total potable water consumption is recycled through the waste water filtration system
- To ensure that common parts cleaning (if a multi tenanted building) are undertaken using environmentally friendly products

The Tenant is to ensure that:

- Any initial fit out will comply with the building environmental code and incorporate a level of reuse from the existing fixtures and fittings (a percentage to be agreed)
- Purchase Green electricity and monitor consumption
- To comply with the building operations manual, including policy on:
 - Switching lights off when last person leaves the office
 - Not adjusting the AC or heating temperatures without the consent of the facilities manager
 - Ensuring that all domestic electronic equipment in the tenants demise is EIA compliant
- Recycling 70% of all paper waste
- Recycling 70% of all toners, ink cartridges and photographic equipment
- Recycling wet waste
- Encourage ride/run/walk to work schemes and make use of on-site facilities
- Providing recyclable cups for refreshment use in order to decrease consumption of water
- "BREEAM IN USE" certification is in place



A SUSTAINABLE FUTURE?

There are number of key interrelated factors, which combined, are underpinning the drive for sustainability in the built environment. Ultimately, the business case for green buildings will determine how fast the industry is able to respond to global environmental challenges. Rising fuel costs, with talk in the media of oil reaching \$200 per barrel in the near future, suggests energy costs are likely to play an increasingly important role in strengthening the financial case for sustainable buildings. This will be particularly true for the refurbishment of existing buildings that are energy inefficient.

As a response to the challenges of climate change and shrinking oil supplies, real estate cannot be considered in isolation. Many commentators have pointed out that green buildings need to be seen in a wider social and economic context. The ‘eco-towns’ concept is now seriously being re-evaluated by policy makers. However, governments need to do much more, particularly in the area of regeneration, to make long-term investment into urban infrastructure projects more attractive.

The global economic slowdown in the wake of the credit crunch is both a challenge and an opportunity for sustainable buildings. Although the development of new green projects may be experiencing a setback as credit availability tightens, renewed investor focus on rental income, and away from rising asset values, offers new opportunities for assessing the financial implications of sustainability.





Sources:

- ¹ CoreNet Global, 'CoreNet Global & Jones Lang LaSalle Global Sustainability Survey', November 2007
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- ³ Davis Langdon, 'The Cost of Green Revisited: Reexamining the Feasibility and Cost Impact of Sustainability Design in Light of Increased Market Adoption', July 2007
- ⁴ Reported in Sustainable Building, 'Ignorance the reason for poor building performance', Issue 16, April 2008
- ⁵ Green Building Council of Australia, 'The Dollars and Sense of Green Buildings 2006'
- ⁶ CoStar Group, 'CoStar Study Finds Energy Star, LEED Bldgs. Outperform Peers', 26 March 2008
- ⁷ Reported in 'Estates Gazette', 'IPD4Good planned to index green investment', 9th February 2008

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