

WHAT COLOUR *is* YOUR BUILDING?

Measuring and reducing the energy
and carbon footprint of buildings

David H. Clark



Appendix L Financial incentives

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Appendix L: Financial incentives

An economist is an expert who will know tomorrow why the things he predicted yesterday didn't happen.

Laurence J. Peter,
Canadian educator and inventor of the Peter Principle:
'in a hierarchy every employee tends to rise to his level of incompetence.'

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This appendix provides further details and data to supplement Chapter 10 (Making the business case).

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L1. LEGISLATION EXAMPLES

L1.1 The role of legislation

Legislation has a key role in creating a level playing field, raising the bar and encouraging innovation in the property industry. This is usually met with resistance, as illustrated in Figure L.1, but without it the property industry rarely takes radical steps to improve environmental performance voluntarily. Clearly legislation has to be technically viable and avoid unintended consequences – but to what energy efficiency standard would buildings have been built to in the last 10 years without it?

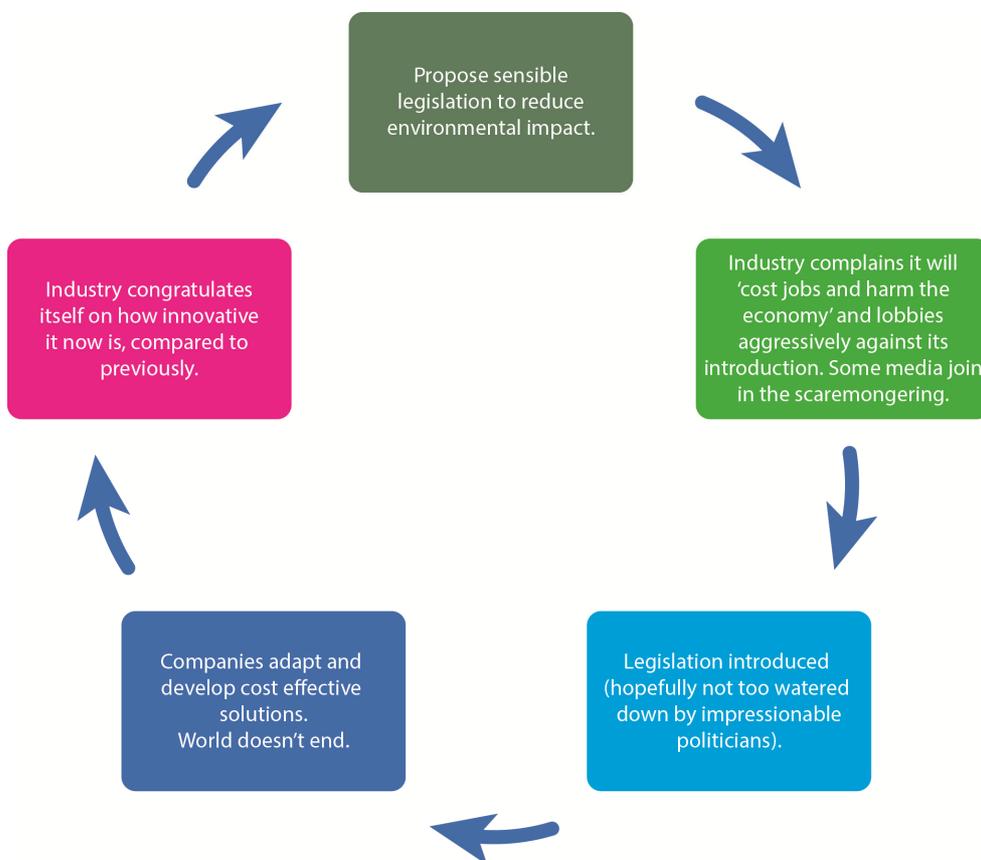


Fig L.1 The typical industry response to proposed legislation?

Reducing the carbon footprint of the property sector requires clear, consistent and long-term policies, taxation, regulation and incentives. This is supported by the findings of a PricewaterhouseCoopers report in 2010.¹ Figure F.2 provides a timeline summary of some of the agreed and proposed pieces of legislation in the UK leading up to 2020 which will have an impact on buildings. Some examples of pieces of legislation in the UK and Europe are discussed in more detail below.

2013	2014	2015	2016	2017	2018	2019	2020
Part L 2013 Green Deal DECs for private buildings used by public CRC League Tables scrapped Corporate reporting on FTSE 100	30% of government buildings to be refurbished each year (EU)		Part L 2016 Zero Carbon Homes Tenants can ask landlords to implement Green Deal Energy audits of large companies (EU)		EPC for landlords has to be better than F	Part L 2019 Zero Carbon Buildings Nearly zero energy buildings (EU)	

Fig L.2 Examples of agreed and proposed legislation affecting buildings in the UK

L1.2 EPBD and ‘nearly zero energy buildings’

The Energy Performance of Buildings Directive (EPBD), first issued in 2002 and updated in 2010, requires EU member states to make energy reductions of 20% in buildings by 2020. The original directive included a requirement for member countries to introduce Energy Performance Certificates (EPCs), using either modelled or metered energy. The 2012 version requires member countries to implement the following in relevant legislation and regulations:

- All building codes must include a critical path culminating in only ‘nearly zero energy buildings’ (NZEB) being built by the end of 2020 (end of 2018 for public buildings).
- EPCs must be permanently displayed in all buildings, commercial as well as public, over 500 m² visited by the public (250 m² for public buildings in 2015).
- A mandatory requirement to inform building tenants of the refurbishment improvements options, as well as the certificate rating.
- Public sector buildings must set leading examples – governments must encourage full implementation of all energy performance certificate improvement recommendations in public sector buildings.
- Refurbishment must result in installation of best rated component replacements.
- Mandatory air conditioning inspections to cover entire systems, not just components of a system.
- Stricter enforcement and compliance oversight.

An NZEB, which member states then have to adapt to suit their own countries, is defined as: *‘a building that has a very high energy performance, as determined in accordance with Annex I. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.’*² Quite what this means in practice is unclear – and like other building regulations it is still based on theoretical energy modelling.

L1.3 New legislation in the EU

On 25 October 2012, the EU adopted the Directive 2012/27/EU on energy efficiency.³ This directive established a common framework of measures for the promotion of energy efficiency within the Union in order to ensure the achievement of the Union's 2020 20% headline target on energy efficiency and to pave the way for further energy efficiency improvements beyond that date. Key aspects of the directive, which will drive future legislation in Europe, include:

- Article 5 – from 1 January 2014, 3% of the total floor area of heated and/or cooled buildings owned and occupied by central government must be renovated each year to meet minimum energy performance requirements.
- Article 6 – central governments should purchase only products, services and buildings with high energy-efficiency performance (provided it is cost-effective, economically feasible and technically suitable).
- Article 7 – energy distributors and/or retail energy sales companies must deliver 1.5% average energy savings each year to final customers between 2014 and 2020.
- Article 8 – independent energy audits of large companies and organisations must be undertaken every 4 years from 2016 onwards.
- Article 9 – where the roll-out of smart meters is found to be cost-effective, at least 80% of consumers must be equipped with intelligent metering systems by 2020.
- Article 11 – final customers should have access to their energy consumption data in an appropriate way and free of charge.

L1.4 Zero carbon buildings in the UK

The definition of a 'zero carbon home' has had many twists and turns in the UK. In March 2011, the Zero Carbon Hub⁴ published *Carbon compliance: setting an appropriate limit for zero carbon new homes: findings and recommendations* which included a zero carbon hierarchy for a tiered approach to achieve the target:

- Setting a carbon compliance standard in kgCO₂/m² to be met by:
 - the performance of the building fabric, and
 - the performance of low/zero carbon heat and power technologies on or in the dwellings, and any technologies providing connected heat.
- Mitigating the remaining carbon emissions (regulated and unregulated) through allowable solutions. This could include measures such as off-site renewables and investing in energy improvements to existing building stock.

In the 2011 budget, the UK Government announced, without consultation, that unregulated (plug-in energy) would be excluded from the zero carbon definition. In a house, roughly two thirds of the energy is regulated (heating, lighting, ventilation) and one third is unregulated (appliances, computers, TV, etc.). Zero carbon legislation clearly does not mean zero carbon buildings in operation. How the rules will apply to non-domestic buildings is yet to be defined.

L1.5 Planning permission

Local councils regularly set minimum environmental performance targets as a condition of planning approval, including minimum energy and environmental ratings, and a requirement for a proportion of renewable energy to be generated on site.⁵ Developers need to provide a solution that is acceptable to the planners, and there is usually room for negotiation, particularly where targets can be shown to be impractical or have unintended consequences.

For example, biomass boilers installed to meet arbitrary renewables targets can contradict local air pollution standards. In numerous instances in the UK, biomass boilers have been installed to tick a renewable energy box in a planning condition, but have then never been switched on. Council planning departments need to obtain a better understanding of practical methods to reduce energy and CO₂e emissions in buildings, and move away from mandating ineffective and expensive prescriptive approaches.

L1.6 Mandatory reporting of energy performance

The Australians got it right over ten years ago with the NABERS Energy rating tool, and in 2011 it became mandatory to provide a rating on the sale and lease of office buildings over 2,000 m² in size. In the United States, the cities of Austin, Washington DC, New York City, Philadelphia, San Francisco and Seattle have all passed mandatory disclosure regulations for commercial buildings. The UK Government currently prefers to stick with theoretical design ratings and ignore the real performance of buildings.

The UK does have the Carbon Reduction Commitment Energy Efficiency Scheme (CRC-EES), an overly complicated and bureaucratic ‘carbon trading’ system introduced in 2010. The participants are large public and private sector organisations with electricity consumptions greater than 6,000 MWh a year in their buildings. They must report their total building portfolio energy consumption and purchase credits each year, initially priced at £12 per tonne of CO₂ (equivalent to 0.6p/kWh of electricity). In commercial office buildings, there are problems with working out who owns the energy (landlord or tenant) and therefore who pays for the carbon allowances.

The performance of individual buildings is not displayed or reported, and a participant league table was produced which lumped everyone together – with their ranking based on a mix of metrics. This means that a university, a supermarket chain, a government department, a football club and an office portfolio are all ranked in the same list. This is like having a combined national league table for football, rugby, hockey, cricket and netball teams.

The carbon allowances purchased at the start of each year were originally intended to be traded between participants, however when the scheme started in 2010, the Government decided that all payments would be treated as a tax or levy and not be recycled to incentivise good performance. Then in 2012, the Government signalled that the league table would be abandoned.

So what started out as a carbon trading scheme (with no revenue to the Treasury) with a prominent public reporting component (to use reputation as well as finance to motivate participants) has become a straight tax on energy consumption with no public benchmarking of performance. The reporting structure has been simplified but it is still complex and bureaucratic.

The CRC-EES seems to place more emphasis on resolving legal and financial structures (with all the associated advisors' fees) than it does on saving energy in buildings. A much simpler solution, which fell on deaf ears at the time, would be to impose a simple carbon tax/levy on commercial energy bills (which can be easily collected by utility companies) and mandate Display Energy Certificates in the private sector (to make energy visible to owners and occupants in individual buildings and motivate them to act). Unfortunately, such a common sense approach is unlikely to find favour with the Government anytime soon.

A GOVERNMENT WHICH CAN'T GET ITS ACT TOGETHER

In the *Carbon Plan*, published in March 2011, the UK Government committed to making it mandatory for commercial office buildings to produce a DEC from October 2012 onwards. This was widely supported by the commercial office sector.

On 10 May 2011, a number of the largest commercial property owners in the UK signed an open letter to government regarding DECs, stating that: *'a voluntary approach to take up in the private sector will not work, because without that level playing field there is a reputational risk for those businesses that voluntarily adopt certification and achieve poor ratings. Therefore, as representatives of the commercial property sector, we believe it is vital that Government extends mandatory DECs to private sector buildings.'*

In September 2011, George Osborne, the Chancellor of the Exchequer, intervened and blocked this from being included in the Energy Act 2011, despite support from all of the relevant government departments and most of the commercial office sector. The Government's Green Construction Board then took up the running. Despite consistent support and lobbying for the mandatory use of DECs by the commercial property sector, in November 2012 the Government announced that it had abandoned the plan altogether – *'an incredibly short sighted decision, which flies in the face of good sense and a pretty broad industry consensus – and breaks a clear promise made last year.'* (John Alker, UKGBC).

This simple, low cost opportunity to push up standards, reduce real energy use and carbon emissions, and stimulate work and skills in energy-efficient buildings will have to wait for another day.

L2. CORPORATE SUSTAINABILITY REPORTING

Paragraph 47 of the Rio +20 Outcomes Document dated 24 July 2012 states:⁶ *‘ We acknowledge the importance of corporate sustainability reporting and encourage companies, where appropriate, especially publicly listed and large companies, to consider integrating sustainability information into their reporting cycle. We encourage industry, interested governments and relevant stakeholders with the support of the United Nations system, as appropriate, to develop models for best practice and facilitate action for the integration of sustainability reporting, taking into account experiences from already existing frameworks and paying particular attention to the needs of developing countries, including for capacity building.’*

While not exactly a call to arms, it suggests that corporate sustainability reporting is likely to be ‘encouraged’ by governments in the future. There are currently two main types of reporting:

- Integrated.
- Corporate Social Responsibility (CSR).

L2.1 Integrated Reporting

Integrated Reporting means stating the profit after accounting for the environmental and social cost to the planet. It is a relatively new approach to corporate reporting that demonstrates the linkages between an organisation’s strategy, governance and financial performance and the social, environmental and economic context within which it operates. By reinforcing these connections, Integrated Reporting aims to help business to take more sustainable decisions and enable investors and other stakeholders to understand how an organization is really performing. Refer to www.theiirc.org for more details.

L2.2 Corporate Social Responsibility (CSR) reporting

The Global Reporting Initiative (GRI) is a non-profit organisation that promotes economic, environmental and social sustainability. It provides a reporting framework that is widely used around the world. There are different application levels (A, B and C) which define the amount of GRI standard disclosures that have been covered in a sustainability report. Refer to www.globalreporting.org for more details.

The international standard ISO 26000:2010 *Guidance on social responsibility* does not set out minimum requirements, so, unlike many other ISO standards it cannot be used for certification. It helps clarify what social responsibility is and assists businesses and organisations translate principles into effective actions. It is aimed at all types of organisations, regardless of their activity, size or location.

L3. GOVERNMENT INCENTIVES

Don't look a gift horse in the mouth.

A report by USA Today in October 2012 found that ‘*roughly 170 cities give LEED builders tax breaks, grants, expedited permitting or waivers allowing them to construct larger buildings than local law allows. Roughly 2,000 developments, buildings and homes have received \$500 million in tax breaks nationwide.*’⁷

If you are preparing a business case for a building it is useful to explore if government incentives are available to reduce costs. Whether these provide value for money for the taxpayers funding the initiatives is not debated here. Table 10.2 in Chapter 10 provided a summary of the type of incentives that might be available. These are discussed in more detail below.

L3.1 Faster planning approvals

Obtaining planning approval can be a long process, resulting in increased project costs and delays on returns. Reducing the duration of the review and permitting process for verifiable green buildings can deliver significant cost savings to the developer (to reinvest in low carbon and green initiatives) at no cost to the local authority since it only requires them to move an application to the top of the in-tray.

Example: In 2012, Los Angeles faster planning approval was given for LEED Silver buildings and in San Francisco for LEED Gold buildings.

L3.2 Planning density bonus

Some planning authorities will allow increases in the Plot to Floor Area Ratio, or allow buildings taller than the local height restrictions, for certified green buildings. These yield both short-and long-term dividends for developers and building owners.

Example: Arlington County’s Green Building Density Incentive Policy.⁸

L3.3 Business rates and property tax relief

Business rates typically cost more than energy in UK office buildings. One potential mechanism to encourage carbon improvements in new or existing buildings is for local councils to reduce rates for buildings meeting agreed targets or ratings. While this might initially appear to come at a cost to the council, the potential increased value of green buildings (refer to Chapter 10 on Building Value) could lead to higher rate/tax revenues in the future.

Examples: The city of Cluj-Napoca in Romania offers a 50% reduction in property taxes for green rated buildings,⁹ Cincinnati provides a 100% tax rebate for LEED buildings, and Howard County provides different rebates, from 25% to 100%, depending on the level of LEED certification.

L3.4 Loans for green retrofits

The long-term cost savings due to energy efficient retrofits of existing buildings are easy to demonstrate. Justifying and then obtaining the finance required to implement these is often not simple: the building owner might not have the cash available or the building might be sold before the initial investment is paid back.

In the US, there are various revolving loan funds available. These allocate lower interest loans from a fund to build or renovate buildings to green standards. The key requirement is that the energy cost savings need to be higher than the loan repayments so that both building owner and the fund owner benefit from saving energy. In this way, the fund is constantly replenished, and can continue to provide additional loans to the community. The government-administered Green Deal in the UK uses a slightly different approach (see box).

Example: Cambridge Energy Alliance which is run by the City of Cambridge in the US.

DEAL OR NO DEAL?

The Green Deal, launched in January 2013 in the UK, provides finance for fixed energy efficiency improvements in buildings. The loan is attached to the building (not the building owner), with loan repayments automatically collected by the utility companies via the energy bills. The 'golden rule' for determining which improvements are funded is that the energy savings must be higher than the loan repayments, so that the building owner sees a small reduction in the energy bill until the loan is repaid, and then gets the full energy saving benefit thereafter. If the property is sold, the loan remains with the building and payments continue to be made via the energy bills.

While this sounds simple in principle, its success will rely on getting all of the details right. In particular, if the interest rates are too high, or the predicted improvements don't deliver enough savings to cover the loan repayments, then the scheme may not be successful. The quality, integrity and independence of the energy options assessment will also be crucial.

Of interest to commercial building owners is the Government's intention to make it mandatory, from 2016 onwards, for landlords to implement initiatives that meet the Green Deal 'golden rule' if requested by a tenant. This may apply irrespective of how long the tenant lease has left to run.

L3.5 Renewable energy payments

Many countries have introduced feed-in tariffs to encourage investment in renewable electricity systems, primarily from photovoltaics and wind. The UK introduced the first comparable scheme for the generation of renewable heat in 2011 called the Renewable Heat Incentive (RHI). Payments to generate renewable energy are notorious for rapid reductions in tariffs when they become too successful, and so any business case based on such tariffs must account for this potential risk.

Feed-in tariffs are typically funded by the energy companies, so in effect customers without renewable energy systems are subsidising those who can afford to install them. Under the UK feed-in tariff scheme, the cost per tonne of CO₂ saved varies from £50 for large wind turbines

(>1.5 MW) to £590 (small scale PV).¹⁰ Whether this represents value for money (noting that the cost of carbon credits or taxes are typically less than £20 per tCO₂) is open to debate.

L3.6 Grants and other incentives

These are typically short-term incentives, usually lasting between 1 to 5 years, intended to provide a quick boost for greening new or existing buildings, and to demonstrate the green credentials of government within the 3 to 5 year election cycle. The types of incentives available may include:

- Free or heavily discounted energy efficiency products – usually domestic scale and may include insulation, lighting and showerheads.
- Free technical assistance in designing green buildings.
- Inefficient equipment scrappage schemes – e.g. domestic boiler replacement.
- Matched funding for green initiatives that meet defined investment criteria.

These incentives can appear and disappear so rapidly that it is difficult to keep track of what is available for a project, particularly for new buildings which may take a number of years from business case to completion. A structured internet search will usually identify potential incentives that can be included in a business case – just make sure to review the eligibility criteria and any use-by date before relying on these.

L3.7 Capital allowances

Tax relief on the capital cost of energy improvements is widely available and it is worth investigating the rules so that this can be included in a business case. In Australia, due to the introduction of the carbon tax, a proposed 50% one-off tax break on the capital costs to improve the NABERS rating of office buildings by 2 stars was withdrawn in 2012 – an example of how government rules can change quickly.

In the UK, the Enhanced Capital Allowance (ECA)¹¹ scheme provides 100% tax relief in the first year for eligible energy-efficient equipment, compared to standard tax relief on capital cost which is spread over a number of years. Eligible equipment is typically selected from the Energy Technology Product List maintained by the Department for Climate Change and the Treasury.

The benefit of ECA can be assessed in net present value terms. Table L.1 provides an example of the tax saving in a hypothetical office building.

Area of building	10,000 m ²
Cost of building services	£5,000,000
Cost of equipment eligible for ECA	£750,000
Corporate tax rate	24%
Tax saving	£180,000

Table L.1 Enhanced capital allowance tax saving in Year 1

The standard capital allowance is based on a reducing balance basis. In 2012, the capital allowance for plant and equipment was 20%. Assuming that the developer or property owner pays 24% corporation tax, then in the first year the amount eligible for tax relief is £150,000 (£750,000 x 20%). The tax saving in year one is £36,000 (£150,000 x 24%) with £600,000 capital value carried over to the next year’s tax assessment. It will take over 10 years to obtain the tax relief of £180,000 given in the first year of the ECA scheme. Figure L.3 shows the tax savings using enhanced and standard capital allowances over a 10 year period.

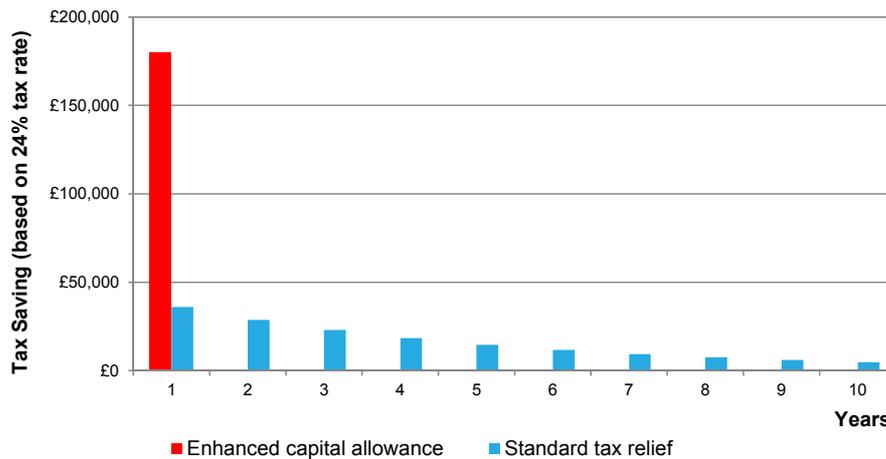


Fig L.3 Tax savings due to enhanced and standard capital allowances

Net present value (NPV) reflects the value of money over time – refer to Appendix I for details. Assuming a discount rate of 5% then the net present value of the standard tax relief is £140,357 (refer to Table L.2). The tax relief under the Enhanced Capital Allowance is £180,000 which represents a net present benefit of £39,643 compared to the standard tax relief.

	Balance	Eligible for tax relief	Tax saving	Value of £1	NPV of tax saving
Year 1	£750,000	£150,000	£36,000	£1	£36,000
Year 2	£600,000	£120,000	£28,800	£0.95	£27,360
Year 3	£480,000	£96,000	£23,040	£0.90	£20,794
Year 4	£384,000	£76,800	£18,432	£0.86	£15,803
Year 5	£307,200	£61,440	£14,746	£0.81	£12,010
Year 6	£245,760	£49,152	£11,796	£0.77	£9,128
Year 7	£196,608	£39,322	£9,437	£0.74	£6,937
Year 8	£157,286	£31,457	£7,550	£0.70	£5,272
Year 9	£125,829	£25,166	£6,040	£0.66	£4,007
Year 10	£100,663	£20,133	£4,832	£0.63	£3,045
		£669,469	£160,673		£140,357

Table L.2 Net present value of standard capital allowance

L4. COST OF OCCUPANCY

Figure 10.2 in Chapter 10 showed the business costs for a typical air conditioned office building in London. Figure L.4 (overleaf) shows the costs for an average UK office building. Table L.3 summarises the data used, and Table L.4 the calculations, to develop both of these charts.

Data	Source	Comments
Energy consumption	ECON 19 for Typical Type 3 Air Conditioned Office	Electricity is 203 kWh/m ² and gas is 160 kWh/m ² giving 154 kgCO ₂ e/m ² (refer to Appendix C for data). In comparison, data from BBP for 138 large offices in London in 2011/12 ¹² had a median of 157 kgCO ₂ e/m ² .
Energy costs	Based on review of Cundall office energy tariffs in 2012	Electricity = 10p/kWh Gas = 3.5p/kWh
Demand charges	Based on review of Cundall office prices in 2012	A demand charge of £6/m ² is assumed.
Sewage & water charges	Based on Portland Tower charges in 2010 (Cundall's Manchester office)	£16,324 per year for 12,212 m ² of NLA = £1.5/m ² .
Rateable value	Table 3.4: Offices, Administrative Areas in England and Wales, RV per m ² , Business floor space (Experimental Statistics), 17th May 2012, Valuation Office Agency. ¹³	In 2012, the average rateable value in inner/outer London was £280/m ² (with Westminster at £487/m ²). The other regions varied from £85/m ² to 114/m ² (except East Midlands at £70/m ²). A typical value of £100/m ² is assumed for offices outside London
Rates	Business rates - an overview. ¹⁴ www.gov.uk/introduction-to-business-rates .	The standard multiplier for 2012/13 varies between 45.8p and 46.2p. A rate of 46p is adopted.
Rent	UK Office Markets 2011, King Sturge	Rents vary from £10/ft ² in old out-of town offices in Liverpool to over £80/ft ² in prime West End offices. Values of £40/ft ² in London and £20/ft ² outside London were adopted as typical.
Landlord service charges	Office OSCAR 2009 – Service Charge Analysis for Offices, Jones Lang Lasalle. ¹⁵	Service charges are based on data in Chart 16 for A/C buildings and include site management resources, security, cleaning & environmental, M&E services, lifts and escalators and fabric repairs and maintenance. The values adopted are £6/m ² in London and £5/m ² elsewhere which exclude energy and water costs.
Average salary	Table 3.7a, Annual pay - Gross (£) - For all employee jobs: United Kingdom, 2011, Annual Survey of Hours and Earnings, 2011 Provisional Results (SOC 2010), March 2011, Office for National Statistics. ¹⁶	The UK average is £26,623, London is £42,797, South East is £27,368, and rest of UK varies from £21,601 (Northern Ireland) to £24,440 (Scotland). The following is adopted: <ul style="list-style-type: none"> • London = £43,000 • Rest of UK = £24,000
Employee cost		Assume 30% added to salary to cover training and other staff-related costs.

Table L.3 Data used for typical office costs in the UK and London

L5. QUANTIFYING PRODUCTIVITY

Common sense tells us that an office with good daylight, comfortable temperatures, fresh air and suitable noise levels (neither too quiet nor too loud) will be more conducive to productive working than a dark, stuffy, noisy workspace. Quantifying this improvement in productivity, and correlating it with the specific features of a building so that it can be included in a business case is, however, both difficult and open to interpretation. Over the last 20 years, there have been various studies and assessments of productivity in workplaces due to a variety of factors:¹⁷

- Personal (e.g. motivation, satisfaction)
- Organisational (e.g. quality of management, payment and reward systems)
- Social factors (relationships with others)
- Indoor physical environment (e.g. accessories, work environment).

As productivity is influenced by a combination of all of these factors, it is difficult to attribute improvements to one factor in isolation. In addition, there is no agreed method of quantifying productivity in financial terms. Approaches include reduction in sick days, measurable tasks such as sales turnover per employee, and subjective appraisal based on the occupant's perception of how productive they are.

This complexity illustrates why it is so difficult to define office worker productivity improvements due to building design in a simple and robust financial metric. Despite this difficulty, the potential productivity benefit should not be ignored when considering the business case for greener buildings, even if it is a qualitative rather than quantitative measure.

In *What workers want*,¹⁸ a report by Savills for the BCO, a survey suggested that moving or refurbishing an office had limited impact on productivity gains. However, the report noted that there is an increasing body of evidence supporting improvements in productivity when a high-quality environment is provided, and that this might not necessarily have been provided to the survey respondents. The report noted that there are a number of business benefits following a move or refurbishment: *'even if an enhancement in staff productivity is not one of them, providing a space where people want to work will help to retain and attract talent, ultimately boosting the bottom line.'*

Figure L.5 shows the results of a survey ranking the top ten non-locational features that make up the ideal workplace. Getting the basics right in terms of comfort, temperature, lighting and noise is clearly important.

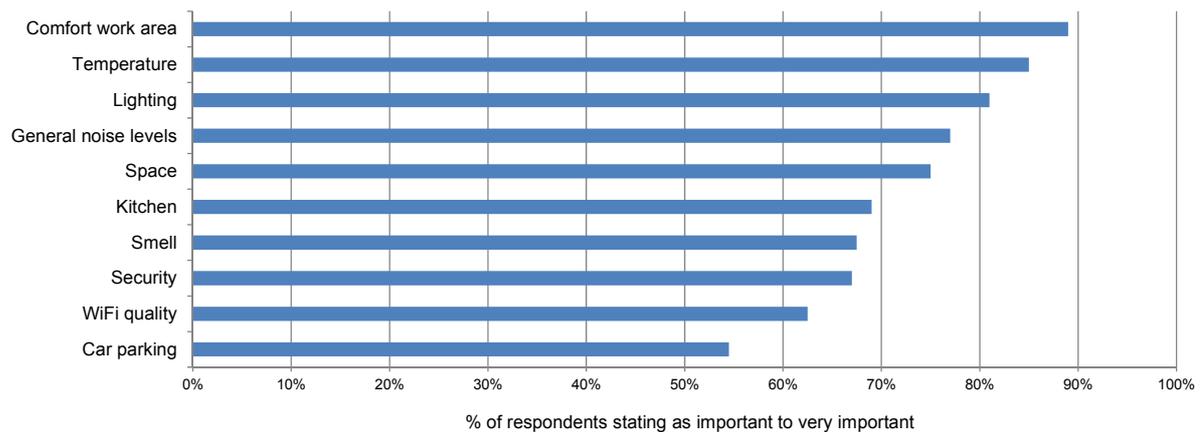


Fig L.5 Top ten features of an ideal workplace. (Source: YouGov, Savills Research, BCO)

L6. GREEN LEASES

In Australia, government (Federal, State, and Local) has a strong influence on the sustainability agenda, as they lease approximately 30% of the Australian commercial office market. The National Green Leasing Policy¹⁹ sets out the requirement for Green Leases where government is the tenant to drive a reduction in the environmental impact of buildings through improved operational performance.

The main purpose of Green Leases is to create a new relationship between landlords and tenants – to foster a spirit of cooperation regarding environmental matters and move away from the traditional adversarial approach. They provide a management framework for both parties to work together to achieve agreed targets and to develop solutions where targets are not met.

The process of establishing a green lease includes:

- Building selection and assessment.
- Drafting of the ‘Heads of Agreement’.
- Dialogue and collaboration between parties on realistic performance targets.
- Definition of obligations of building owner and tenant.
- Preparation and finalisation of legal documentation.
- Activities to be undertaken to achieve performance ratings.
- Remedial actions to address deviations from obligations.

For further guidance on green leases, refer to:

- Green Lease Handbook, Council of Australian Governments (COAG), 2012.
- Tenant’s Guide to Green Leases, Council of Australian Governments (COAG), 2012.
- Green Lease Schedule Guidance Notes, Energy Efficiency in Government Operations, Australian Government, 2010.

- Green Lease Toolkit: Working together to improve sustainability, Better Building Partnership, 2009.
- Guide to Environmental Performance Clauses: Commercial Property Leases Australia, RICS Oceania, 2009.
- Green Lease Guide for commercial office tenants, Investa Property Group, 2006.
- The Fifth Estate guide to best practice and green leasing – a guide for tenants and landlords (http://issuu.com/thefifthestatebook/docs/tfe_tl_guide_0713_3bb1f6e32030ff)

L7. ETHICAL INVESTMENT

Someday I want to be rich. Some people get so rich, they lose all respect for humanity. That's how rich I want to be.

Rita Rudner, American comedienne, writer and actress.

Ethical investment funds each have their own specific set of objectives. Typically, they aim to exclude investment in companies that pose a threat to human rights, to health or to the environment. Some funds support good practice by focusing on companies that are making a positive contribution, such as those whose products are environmentally friendly or that actively support community welfare. Many funds do both and take account of both negative and positive criteria when investing.

Real Estate Investment Trusts (REITs) are securities that sell like a stock on the major exchanges and invest in real estate directly, either through properties or mortgages. They were first used in the United States in the 1960s. In 2012 they had a market capitalisation of close to US\$1,000 billion, with over US\$630 billion in the US, US\$81 billion in Australia and US\$38 billion in the UK.²⁰ Large global REITs include Simon Property (US\$29 billion), Westfield (US\$16 billion) and Land Securities (US\$9 billion).

REITs, by applying ethical investment principles, could have a significant influence on the environmental performance of new and existing buildings. Unfortunately, there has been relatively little research on how the energy efficiency and sustainability of commercial properties affects the financial performance of REITs.

A research paper²¹ in Australia in 2012 found that the environmental, social and corporate governance dimensions of CSR are not currently separately priced by Australian REIT investors, with most of the REIT performance accounted for by the financial factors. Corporate governance was found to be the most influential CSR factor on Australian REIT performance compared to environmental and social factors.

The 2012 paper *Portfolio greenness and the financial performance of REITs*²² analysed the performance of LEED and Energy Star certified buildings in a sample of US REITs. The average percentage of certified properties in REIT property portfolios was found to be quite low: about 2% for LEED and 5 to 7% for Energy Star.

Further research on ethical investment in commercial property will undoubtedly be undertaken in the coming years.

L8. ENERGY SECURITY OF SUPPLY

We have become used to energy always being available at the flick of a switch. To deliver this, a country's energy supply needs to be of the right quality, constantly reliable, secure and able to provide for future demand. Some issues associated with this are:

- The cost of importing energy.
- Political instability / leverage in countries supplying energy.
- Pollution legislation associated with different fuel sources.
- Diversity of energy sources to avoid being over reliant on one source.
- The condition and capacity of the infrastructure to generate and distribute energy.

There have been a number of incidents where the short- or long-term security of energy supply has been compromised or placed at risk for a variety of reasons.²³ A report by the British Council for Offices in January 2013 expressed concern with 'the lack of capacity in Central London's energy infrastructure' and the extra cost this places on developments.²⁴

Notes

All websites were accessed on 25 May 2013 unless noted otherwise. Information papers referenced are available to download from www.wholecarbonfootprint.com.

1. Refer to [Information Paper 31 – Corporate attitudes to sustainability](#) for details.
2. Article 2, Dir 2010/31/EU. http://europa.eu/legislation_summaries/energy/energy_efficiency/en0021_en.htm
3. Clause 1 sets out the reason for the directive. ‘The Union is facing unprecedented challenges resulting from increased dependence on energy imports and scarce energy resources, and the need to limit climate change and to overcome the economic crisis. Energy efficiency is a valuable means to address these challenges. It improves the Union’s security of supply by reducing primary energy consumption and decreasing energy imports. It helps to reduce greenhouse gas emissions in a cost- effective way and thereby to mitigate climate change. Shifting to a more energy-efficient economy should also accelerate the spread of innovative technological solutions and improve the competitiveness of industry in the Union, boosting economic growth and creating high quality jobs in several sectors related to energy efficiency.’ http://ec.europa.eu/energy/efficiency/eed/eed_en.htm
4. The Zero Carbon Hub is a public/private partnership, established in 2008 to provide guidance to the Government to support the delivery of zero carbon homes. www.zerocarbonhub.org.
5. In 2003, the Merton council in London introduced a requirement to provide 10% renewable energy on site. This was intended to provide a starting point for negotiation with developers as the council recognised that it might not be technically or economically feasible to achieve the target. The 10% target, known as the Merton rule, was swiftly copied by other councils, some of whom increased 20% to show that they were even greener than other councils!
6. www.uncsd2012.org/thefuturewewant.html.
7. www.usatoday.com/story/news/nation/2012/10/24/green-building-lead-certification/1650517/.
8. <http://news.arlingtonva.us/pr/ava/arlington-county-board-approves-235294.aspx>.
9. <http://rogbc.wordpress.com/2012/05/30/property-tax-reduction-for-green-building-owners-in-cluj-napoca/>.
10. Refer to [Information Paper 30 – Government incentives for renewable energy](#) for further details and examples of financial implications in a typical office building.
11. The Enhanced Capital Allowance (ECA) scheme enables businesses to claim a 100% first year capital allowance on investments in certain pieces of energy-saving equipment, against the taxable profits of the period of investment. This is instead of claiming standard allowances (typically 20% a year on a reducing balance basis) over a number of years. <http://etl.decc.gov.uk/etl>.
12. Refer to [Appendix C](#).
13. www.voa.gov.uk/corporate/statisticalReleases/120517_CRLFloorspace.html.
14. www.businesslink.gov.uk/bdotg/action/detail?itemId=1086066470&type=RESOURCES.
15. www.joneslanglasalle.com/MediaResources/EU/Marketing/UnitedKingdom/OSCAR%202009%20-%20Office%20OSCAR%20FINAL%20-11.04.pdf.
16. www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-256648.
17. Refer to [Information Paper 33 – Productivity in office buildings](#) for a summary of findings from various studies.
18. *What workers want*, British Council for Offices, April 2013.
19. The Australian Government’s *National Green Leasing Policy* provides guidance and information on a collaborative approach to improve operational performance through the use of a Green Lease Schedule. It sets minimum performance targets and

outlines the requirements of building owners and government tenants.

<http://www.apcc.gov.au/ALLAPCC/GPG%20-%20National%20Green%20Leasing%20Policy.pdf>.

20. <http://www.ey.com/GL/en/Industries/Real-Estate/2012-REIT-report---Overview> and www.investorchronicle.co.uk/2012/12/05/shares/news-and-analysis/go-global-for-better-reit-returns-EoDmDwWH438R3BYi0jYaRK/article.html.
21. *Influence of the corporate social responsibility factors and financial factors on REIT performance in Australia*, Newell et al., Journal of Property Investment & Finance, 2012, Vol. 30 Iss: 4, pp. 389 - 403
22. *Portfolio greenness and the financial performance of REITs*, Eichholtz, P., et al., Journal of International Money and Finance (2012). www.corporate-engagement.com/files/publication/EKY_JIMF.pdf.
23. Refer to [Information Paper 1 – Security of energy supply](#) for further details.
24. *Capacity of Central London's Energy Infrastructure*, report by British Council for Offices, Jan 2013.