



Introductory guide to environmental sustainability



**CONSTRUCTING
EXCELLENCE**
in the built environment

Foreword



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*Chairman, Members Steering
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In 2007, the core members of Constructing Excellence carried out a review of futures reports to decide on priorities for new guidance for our members who remain committed to a collaborative future. Six themes emerged and task groups were established to review existing material and produce a guide to help members stay one step ahead:

- Collaborative procurement
- Collaborative cost reduction
- Collaborative design management
- Whole life costing and facilities management
- Environmental sustainability
- Better ways of working

This guide was produced by a task group of members and others, all of whom committed time and resources to support this work, they are duly acknowledged at the end of this publication. It was also peer reviewed at meetings of the full membership to ensure maximum relevance and coherence as a set of publications.

We welcome feedback on all our publications at any time, please contact us at the address shown on the back cover.

A handwritten signature in dark ink, appearing to read 'VB' followed by a stylized flourish and a period.

Introduction

The construction industry accounts for 9% of UK gross domestic product (GDP) and employs 8% of the working population. The industry has a significant responsibility to its workforce, the environment and the communities with which it engages. And, as we spend around 90% of our lives in buildings, it has the opportunity to have a major influence on how we live and work.

Environmental awareness has been increasing rapidly over the past couple of decades. However, it is only in the last 10 years or so that the construction industry has really started to consider its environmental impacts. Decisive action to address these impacts is even more recent, and full consideration of the environmental, economic and social aspects of sustainability together ('the triple bottom line') is still rarely achieved.

Both legislation and drive from Government have put pressure on the built environment sector to deliver more environmentally sustainable developments. As a result, it is highly likely that in the future we will increasingly see the delivery of buildings and structures, and their supporting infrastructure which:

- a) Maximise the efficient use of resources by using fewer raw materials and less energy, and cause less pollution and waste;
- b) Improve quality of life and customer and end user satisfaction;
- c) Offer flexibility with the potential to cater for future changes in use; and
- d) Provide and support pleasing natural and social environments.

This document was produced by the Buildings and Estates Forum Environment Group (Be Environment Group) and aims to give an overview of the issues involved in delivering environmentally sustainable developments. Each section examines these issues and provides signposts to relevant sources of further information.

Government drive and legislation

Sustainability issues, such as climate change, have risen rapidly up the Government agenda in recent years. The built environment is responsible for around 47% of UK carbon emissions through both construction and the operation of buildings. The sector therefore has a major role to play in reducing these emissions. Initiatives such as the [Code for Sustainable Homes](#) and the Government's [zero carbon homes by 2016 target](#) are pushing the industry

towards low carbon and sustainable construction practices. In addition, consumer demand for energy-efficient and low carbon homes is being stimulated by the mandatory requirement for [Home Information Packs](#), which must include an Energy Performance Certificate stating the energy consumption of the dwelling, to be provided prior to sale.

In the non-housing sector the Government has set out its ambition for all public sector buildings such as [hospitals, schools and town halls to be zero carbon by 2018](#) and all new [shops, offices and other commercial buildings to be zero carbon by 2019](#). As well as this, clients are increasingly demanding higher [BREEAM](#) ratings for their developments which encompass not only low carbon and renewable energy features, but also wider considerations such as biodiversity. In recognition of this, in 2008, the Be Environment Group published [10 Top tips for achieving high BREEAM ratings](#).

The Government and construction industry came together in 2008 to produce a joint [Strategy for Sustainable Construction](#) which gives an overview of sustainability activities and responsibilities, and provides targets for the industry. It was launched in conjunction with six construction [industry commitments](#) which enabled companies to commit to improving their working practices and processes.



Gallions Ecopark © Gallions Housing Association

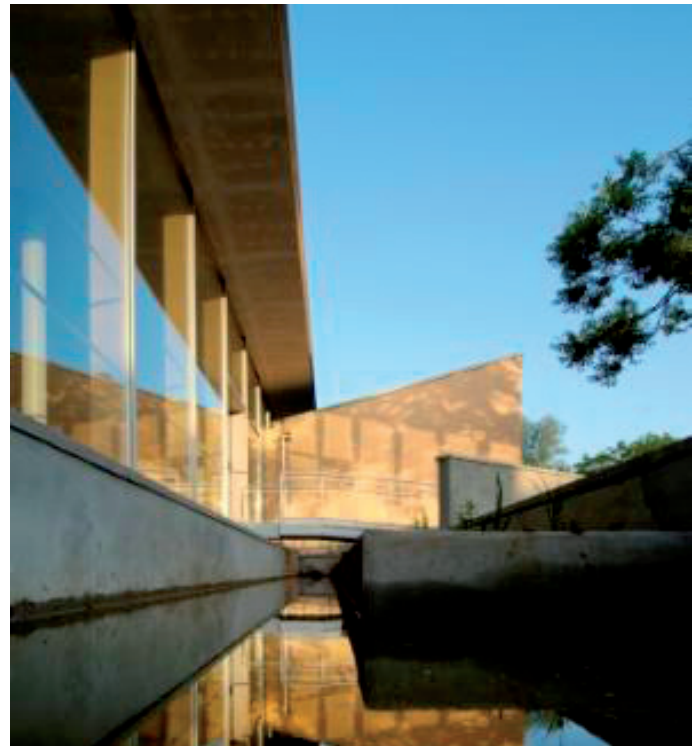
Best practice

Sustainability can be difficult to measure as it is often seen as a 'soft' issue. The [Key Performance Indicators](#) published by Constructing Excellence can help an organisation measure and therefore manage their sustainability performance. In addition, the Constructing Excellence [Members' Sustainability Group](#) felt that a benchmarking club of Members would help improve performance in this area. The [results](#) of this initiative were published at the end of 2008.

A recent [survey of Constructing Excellence Members](#) found that the industry still saw sustainability as economically unviable and that further legislation would be needed to drive the industry forward. However, best practice from across the industry shows that projects that address sustainability from the outset can be delivered within standard construction budgets. A [Demonstration Programme](#) was established by Constructing Excellence in 1998 to showcase best practice across the industry in a number of key areas including sustainability.

The UK lags behind some of our European neighbours in terms of sustainable construction. Best practice from abroad could help move our industry closer to the production of truly sustainable buildings. The [UK–Sweden Initiative](#) on Sustainable Construction has produced case studies on exemplar sustainable buildings in both countries and aims to encourage further sustainable construction, management and renovation.

The Be Environment Group and Constructing Excellence Members' Sustainability Group both identified a need for clarity on sustainability issues, believing that increased understanding of the subject was needed in the wider industry. They commissioned a ["Plain English Guide" to sustainable construction](#) which provides a valuable overview and aims to penetrate some of the jargon associated with the subject. To help those companies that have not yet begun addressing sustainability issues, the Constructing Excellence Membership produced [two "starter for ten" booklets](#) which identify some of the key actions that individual companies and the industry as a whole should take to become more sustainable.



Project Genesis © Leigh Simpson

Guidance and Further Reading

- Constructing Excellence in the North East and the Environment Practice produced a ["Pocket Guide to Environmental Legislation \(England & Wales\) for the Built Environment"](#). This succinct guide contains details of relevant environmental legislation broken down under clear headings.
- The [Netregs](#) website provides summaries of key pieces of environmental legislation with generic and sector-specific guidelines on how to achieve compliance with that legislation.
- Guidance for developers has been produced by the [Environment Agency](#) which provides straightforward advice and case studies to enable developers to manage the environmental constraints of their development.

Climate change and energy

What is it?

Energy provision for the construction industry is contributing to the increasing amounts of carbon dioxide released to our atmosphere through the burning of fossil fuels. This is causing the world's climate to change. Agreements such as the [Kyoto Protocol](#) contain internationally binding targets for countries to reduce their carbon emissions. The UK has responded with the introduction of its [Climate Change Bill](#) which contains a commitment to reduce national carbon emissions by at least 60% by 2050. [The Stern Review](#) on the economics of climate change calculated that if no action is taken to reduce carbon emissions, the overall cost of climate change could be equivalent to losing 5-20% of UK GDP. If action is taken now to reduce emissions, the cost could be as little as 1% of GDP.

Responsible management of carbon is an economic issue as it is highly likely that the future economy will include an element of carbon trading. The European Union (EU) has already put in place its own emissions trading scheme ([ETS](#)) which focuses mainly on high-emitting industries such as power generation, and iron and steel, glass and cement production. If successful, this approach may be rolled out across other industries. If businesses can prepare themselves by reducing carbon emissions now, before taxes are introduced, they will gain a head start in a future economy which is likely to be based around carbon.



Wolseley Sustainable Building Center © Wolseley

What are the Issues?

Mitigation in New Build

It is important to reduce carbon emissions in the construction and operation of our buildings. Energy efficiency is crucial to this and should be introduced at an early stage to avoid costly add-ons.

As well as this, on-site renewable energy generation is becoming a stipulation in many client briefs and planning policies; the [Merton Rule](#) demands, for example, that a percentage of renewable energy be produced on site. As demand for clean power generation technology increases, new opportunities will arise in the manufacture and supply sectors. Pressure to innovate will increase and it will become more cost effective to invest in research and development to stay competitive. Markets for energy-efficient products will grow significantly.

Transport can make a major contribution to the carbon footprint of a project. It is important to address, and attempt to reduce, the number of vehicle movements needed for transporting materials to and from site. One way to do this is through the use of a consolidation centre. Research conducted by [Constructing Excellence](#) found that a consolidation centre can reduce local environmental nuisance by 70% in terms of local traffic and pollution. In addition, productivity can be increased by 0.5 hours per day and potentially 8% can be saved on the overall construction cost. Vehicles that are delivering materials to site can be utilised to remove waste on their return journey, a process known as 'reverse logistics'.

Mitigation in Existing Buildings

Opportunities also exist for retrofitting existing buildings to reduce carbon emissions. Simple improvements such as increasing insulation and using energy saving light bulbs can result in rapid reductions in energy use. However, the challenges posed by the need to reduce carbon emissions in the existing stock are more complex than in the new build sector. The [Housing Forum](#) recently published a report examining the issues and opportunities surrounding the establishment of a sustainability standard for the existing stock. The report concluded that any solution would have to involve longer-term contracts, financial rewards including gain/pain share, education of tenants, home owners and staff working in the industry, and better communication.

Older buildings are often seen as being too difficult or too fragile to retrofit to be more sustainable. To combat this assumption, Constructing Excellence assisted the Heritage Lottery Fund in developing the guidance document "[Planning Greener Heritage Projects](#)". In addition, a resource use trial, with a number of projects funded by the Heritage Lottery Fund, examined construction or refurbishment work in terms of their use of resources and consideration of long-term costs.

Mitigation in Business Operations

Many companies have begun to measure their 'carbon footprint' which is the carbon emissions arising from their operations, including emissions from areas such as travel, energy consumption and waste.

Staff behavioural change can reduce an organisation's carbon emissions, for example, by encouraging staff to switch off appliances and lights when not in use. Some organisations choose to incentivise their staff to save energy or consider low carbon travel options. Reductions in carbon emissions can be achieved by addressing the amount of business travel and mode of transport used by staff both in the office and on site.



Employing low energy technology or using technology in a way that saves energy can lead to reduced energy consumption and can help improve business processes. Some organisations have chosen to upgrade their ICT systems from power-hungry, heat-generating PCs to 'thin client' solutions. 'Thin client' systems are more energy efficient as most of the processing capacity is transferred to the server system from individual PCs. Communication technology such as WiFi can enable more flexible working and can also help relay position- and/or context-specific data to and from site, thus smoothing the flow of information and reducing the need for extensive inputting. This can help to monitor energy and waste generation on site.

Some companies choose to implement environmental management systems, regulated by standards such as [ISO 14001](#) or [ISO 9001](#), which help to measure and monitor the overall environmental impact of a business including its carbon emissions.

Once all options for reducing and eliminating carbon have been investigated, many organisations choose to 'offset' their remaining carbon emissions. This involves making a donation to an offsetting organisation which invests in carbon reduction projects around the world. Critics view carbon offsetting as a way of avoiding responsibility for carbon emissions through payment to a third party. However, a financial commitment to carbon reduction can be beneficial, as it helps form a business case for reduction strategies.

Adaptation for Future Climate Conditions

The climate has already begun to change and is likely to continue to change even if efforts to reduce carbon emissions are successful. Extreme UK weather events, such as the heatwave of 2003 and the flooding in 2007, are likely to become more commonplace. Buildings that are constructed now need to be resilient to future climate, and will need to cope with more flooding and drought, more extreme heat and less cold, and even with increased amounts of wind-blown debris as extreme weather events become more common.

Guidance and Further Reading

Mitigation

- The [UK Green Building Council](#) has recently produced a report investigating the costs and benefits of raising energy performance standards in new non-domestic buildings above those currently set out in the Building Regulations all the way to zero carbon. In October 2008 it also published a report on [Low Carbon Existing Homes](#).
- The [Chartered Institution of Building Services Engineers \(CIBSE\)](#) has produced guidance to help identify the most appropriate low or zero carbon energy generation solutions based on user requirements.
- Detailed guidance on improving energy efficiency and the SAP or energy rating of developments is available from the [Energy Saving Trust](#).
- Many different business carbon calculators are available from organisations such as [C Level](#) and from other companies that provide carbon offsetting services.
- [Defra](#) also provides a personal carbon calculator for those wishing to measure the carbon impact of their individual lifestyles.
- [The Carbon Trust](#) can assist large businesses to reduce their emissions by providing free carbon surveys to organisations with annual energy bills of over £50,000.

Adaptation

- The [UK Climate Impacts Programme](#) is due to release the latest set of future climate change scenarios in Spring 2009 to help inform and prepare planners and decision-makers.
- Research conducted by the [Three Regions Climate Change Group](#) examined the risk to buildings in the south-east, east of England and London regions, and compared the cost and effectiveness of methods to increase the resilience of different housing types. Practical ways of retrofitting existing buildings to be resilient to more extreme conditions were examined and their cost implications reported.
- Research by the Engineering and Physical Sciences Research Council ([EPSRC](#)) and the [UK Climate Impacts Programme](#) has also looked at the impacts of climate change on infrastructure, the built environment and utilities.
- Defra has launched a [climate change adaptation website](#) to address the issues and reflect the wide range of Government work in this area.

Resource efficiency and waste

What is it?

The UK construction industry creates around 90 million tonnes of construction and demolition waste per year. Landfill costs are set to rise by at least £8 per tonne of active waste every year until 2010/11 and companies are beginning to realise the financial and environmental implications of irresponsible waste management.

What are the Issues?

Waste Reduction – On site

The options for the treatment of waste – known as the ‘waste hierarchy’ – are prevention, minimisation, reuse, recycling, energy recovery and, finally, disposal.

The most important step is to prevent waste occurring in the first place, and then to minimise such wastes as do arise. Constructing Excellence has worked with Envirowise to identify [opportunities for resource efficiency at the design stage](#). Further ways of minimising waste include:

- Early consideration of the amounts of waste and types of waste stream that will be produced by a project through use of a [Site Waste Management Plan](#). It is now a legal requirement in England for all construction projects begun after 6th April 2008 worth over £300,000 to have a Site Waste Management Plan.
- Standard sizes in a design can reduce the amount of virgin material discarded as offcuts. Bringing together the design teams and suppliers at an early stage is essential to ensure that projects are designed around the product sizes available.
- The durability of the products chosen can also have an important impact on the overall sustainability of a project. Long-lasting products need less maintenance, will need to be replaced less often and will therefore produce less waste.
- Specification of products that can be recycled once they have come to the end of their lives can reduce waste in the future. Materials such as plasterboard and aggregates can be recycled relatively simply.
- Designing for deconstruction from the outset can ensure that, at the end of its life, a building can be easily dismantled and the products reused or recycled. For example, bolting together components rather than using glue can make recycling easier.

- Correct storage and protection can minimise damage to and theft of products on site.
- Ordering products and materials to be delivered when needed – ‘just-in-time’ delivery – reduces the risk of damage on site.
- Consideration of alternative methods of construction can also have advantages in terms of waste minimisation. Constructing Excellence recently completed a study for Envirowise examining the opportunities for [resource efficiency provided by Modern Methods of Construction \(MMC\)](#).
- Testing concepts in a ‘virtual’ context can identify problems before construction begins. This could reduce resource waste and the expense of rectifying mistakes at a later stage.

Opportunities to reuse waste on site should be investigated, followed by exploration of options to reuse waste off site. Once all options for reuse have been exhausted, the remaining waste can be separated and recycled. Only once all options for using waste as a possible resource have been exhausted should disposal at landfill be considered. It is essential to be aware of the relevant legislation regarding waste management, as the waste producer is responsible for the correct disposal of waste and will be prosecuted if any waste is dealt with in an illegal way.



T5 © Laing O'Rourke

Guidance and Further Reading

- Organisations such as [WRAP](#) provide advice and training on developing and implementing Site Waste Management Plans.
- [CIRIA](#) has produced guidance on designing for deconstruction.
- Organisations such as the [National Industrial Symbiosis Programme](#) can help to identify demand for the waste streams coming off a project.
- The [Smartwaste](#) online tool enables organisations to measure their waste and benchmark it against similar projects.
- Constructing Excellence is working with builders' merchant Wolseley to provide facilities for small builders to recycle their waste when they purchase new materials. "[Waste Take Back](#)" is a pilot scheme which, if successful, will be rolled out nationwide.
- Information on waste regulations covering site and electrical waste can be found on the [Netregs](#) website.



Waste Reduction in the Office

Consideration should be given to responsible waste disposal in the office as well as on site. Local Authorities and private companies will collect waste for recycling including:

- white and coloured paper
- toner cartridges
- electrical equipment
- plastics
- glass
- food waste.

Some charities also provide recycling services for mobile phones and toner cartridges. However, it is important to be aware that the waste producer is responsible for the correct disposal of electronic goods and must make sure that any third party waste management organisation has the correct permits in place.

Other ways of reducing the amount of waste produced in office premises include:

- Reducing the number of waste bins available to encourage staff to think twice about how to dispose of their waste responsibly.
- Providing desk top recycling bins can make recycling easier and can encourage staff to recycle as a matter of course.
- Encouraging printing on scrap paper or double-sided printing reduces paper use in the first place.

Use of IT and new technology can also reduce the amount of waste generated by a business. Online collaboration platforms can avoid the need for production, distribution and storage of paper-based documents and reduce the requirement for meeting travel.

Water management

What is it?

Winters are set to become warmer and wetter and summers are predicted to become drier and hotter in the near future. This presents two challenges in terms of water management: wetter winters will mean a higher risk of flooding and the overloading of drainage systems in many areas; and drier summers will mean the threat of drought in many areas which could lead to restrictions in water supply.

What are the Issues?

Water Management – Drainage

Traditional drainage systems and Victorian sewers will be unable to cope with future excess water and the paving over of green spaces has reduced the ability of the land to absorb excess water. Traditional drainage practice is designed to move rainwater as rapidly as possible from the point at which it falls to a discharge point, either a watercourse or soakaway.

As well as increasing the risk of flooding in the area, run-off water can contain contaminants such as oil, organic matter and toxic metals. The use of Sustainable Urban Drainage Systems (SUDS) is one way to ensure that water flows into drainage systems, thus reducing the risk of flooding to developments. The first step towards sustainable drainage is to take a responsible approach to the disposal of chemicals and contaminants to prevent polluted water entering watercourses in the first place. Other options available to reduce the amount of water entering watercourses

include rainwater reuse (or harvesting). This involves the collection and storage of rainwater on site and its use as a substitute for mains water, for example, in watering gardens or for flushing toilets. Utilisation of flat roofs for vegetation ('green roofs') can also help to absorb excess water. Permeable paving such as permeable concrete blocks, crushed stone or porous asphalt can also help to reduce water run off.

Designing green spaces into developments can have advantages beyond water management as gardens and parks can promote a sense of wellbeing and space for residents and users.

Water Management – Reduction

As well as using technology to reduce water usage and reuse water in a building, it is also important to encourage behavioural change in the building's occupants. Clear labelling and the provision of manuals is essential to ensure that building occupants operate any water-saving technology. Water-saving measures can also be implemented in office and site premises. Information campaigns encouraging staff to turn off taps can be combined with the installation of water-saving devices such as low flow taps and dual flush toilets. As well as better preparing organisations and developments for the future, water-saving measures have other advantages; for instance, it is estimated that the water industry produces approximately 5 million tonnes of carbon dioxide per year, so reductions in water use will also result in a reduction of carbon emissions.



Wolseley Sustainable Building Center © Wolseley

Guidance and Further Reading

- The Milton Keynes and South Midlands Environment and Quality of Life Sub Group produced a [Guide to Green Infrastructure for Milton Keynes and the South Midlands region](#) which contains case studies demonstrating best practice in the area of green infrastructure.
- Water management guidance is available from [CIRIA](#).

Procurement and materials

The construction industry consumes around 380 million tonnes of resources each year. Reduction in consumption of materials and greater use of recycled products can benefit a project by reducing waste and reducing costs.

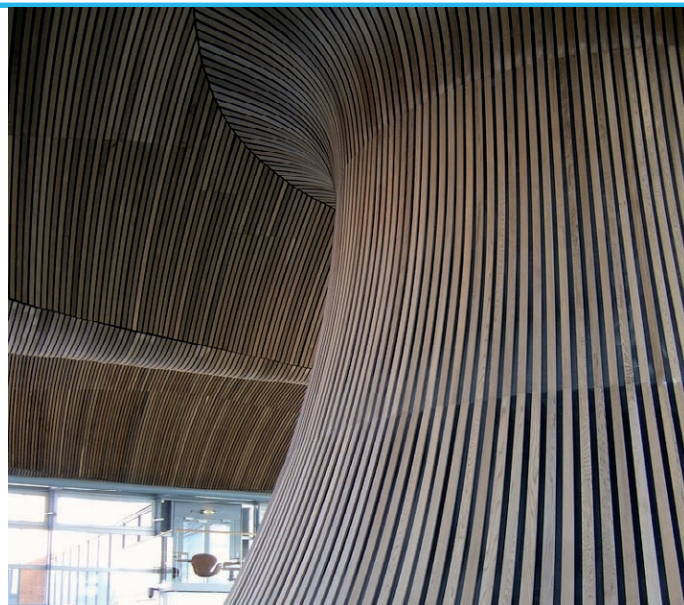
What are the Issues?

Choice of materials can have an enormous effect on the overall environmental impact of a building. Factors to be considered in the choice of a sustainable material must include:

- The amount of carbon produced in its manufacture and extraction;
- The environmental impact in terms of water use and waste generated in production;
- Its recyclability and reusability;
- Its recycled content;
- The number of vehicle movements required in its manufacture;
- The conditions of workers employed in its manufacture; and
- Where the material is sourced.

The carbon emissions produced by the manufacture of some construction products can lead to a large carbon footprint for the development as a whole. When choosing construction products it is important to consider the lifespan and durability of the product alongside its carbon impact to make a decision on a whole life basis. For instance, a product that produces a high amount of carbon in manufacture but with high durability could result in a low carbon impact overall.

Raw materials should be sustainably sourced and damage to the surrounding environment minimised. Problems such as deforestation and the irresponsible extraction of materials can be extremely damaging for both the immediate surrounding area and the wider global environment in terms of carbon emissions.



© Dr Craig

Consideration of the carbon emissions produced by vehicle movements involved in the extraction and manufacture of products also affects their overall carbon impact:

- Transport by air can increase the emissions attributed to a product considerably.
- Lighter products, which come in sizes that are easy to pack together, can reduce the number of vehicle movements needed to transport them to site.
- Sourcing materials from local suppliers can help to regenerate an area, create local jobs and reduce carbon emissions from vehicle movements.

When procuring products, it is important to consider whether or not the product contains materials that have been recycled. Construction materials with a high percentage of recycled content are already available on the market and reduce the amount of virgin material that has to be extracted.

Procurement – The Office

Sustainable procurement principles should also be applied when purchasing for the office, for example, by using recycled paper and other stationery products, and considering the use of recycled or second-hand furniture, recycled carpets and natural paints when refurbishing an office. Providing local and seasonal food and using tap water can convey a positive message to clients.

Guidance and Further Reading

- Following an assessment of the existing tools for assessing the carbon impact of products, the Constructing Excellence Members' Sustainability Group recommended the BRE "[Green Guide to Specification](#)" as being the most comprehensive tool available.
- The [Manufacturing Sustainable Communities \(MSC\) project](#) is a pioneering collaborative project aimed at creating a viable locally-based, innovative and sustainable manufacturing supply base for the Off Site Manufacturing (OSM) market, whilst simultaneously contributing to the economic regeneration of London's most needy areas.
- The National Platform for the Built Environment commissioned Constructing Excellence to undertake a study into industry research requirements in the area of [reducing resource consumption](#) to create an understanding of current and ongoing research on the subject and identify where there are likely to be information gaps.
- Recognised standards such as the [Forestry Stewardship Council \(FSC\)](#) mark guarantee that timber products come from sustainable sources.
- [Chain of custody documents](#) provide evidence of a product's journey from source to its final destination. They are often used in conjunction with FSC certified timber.
- [Green Spec](#) is an alternative construction industry guide to 'green' building design, products, specification and construction.
- [Wrap](#) has developed an online recycled content guide which provides details of a range of products and materials commonly used in new build and refurbishment projects and helps identify how to increase recycled content.
- [London Remade](#) works in partnership to develop and improve waste management, recycling and green procurement in London.
- The Treasury "[Green Book](#)" contains guidelines for consideration of environmental impact in government procurement.
- Ideas on how to improve the environmental performance of office premises and operations is contained in the "Green Guide" produced by the [London Sustainability Exchange](#).
- Implementing a sustainable procurement policy can help ensure that materials are consistently sourced in a sustainable way across an organisation, an example of this has been produced by [Vinci Plc](#).



Bedzed Bioregional

Biodiversity

What is it?

[Defra](#) define biodiversity as:

"The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part."

The preservation and protection of biodiversity in the UK is critical and planning authorities have the power to prevent developments that are damaging to biodiversity. They also have a statutory duty to "further" or "have regard to" the conservation of biodiversity.

What are the Issues?

All construction activity has an impact on natural habitats through noise, pollution and changes to land use. Biodiversity should be addressed as early as possible in the design stage to minimise costs to the project. Animal and plant species may be displaced, or unable to survive at all, if their surroundings change. Disturbing the biodiversity of an area can also have financial implications for a project; disruption of the habitats of some endangered species, for example, can lead to hefty fines for the companies responsible. Some species are protected specifically, such as badgers, newts and bats, and in some cases both habitat and species are protected. However, construction need not have a purely negative effect; it can, instead, enhance the habitats of certain creatures by incorporating specific measures to help them thrive. Simple and inexpensive ways of enhancing the environment around a project could include the following:

- Avoiding work during mating or hatching seasons;
- Relocating plants and animals to similar areas if necessary;
- Where possible, implementing an ongoing landscape management plan for the site and monitoring any potential problems; and
- Installing animal road crossings or bat boxes.

Invasive weed species such as [Giant Hogweed](#), [Himalayan Balsam](#) and [Japanese Knotweed](#) can spread quickly and shade out native biodiversity. Some species can also be hazardous to humans. Special guidance and regulations cover how they are to be handled and disposed of; organisations can be prosecuted if they do not deal with invasive weed species correctly.

Some trees may also be protected by Tree Preservation Orders which make it an offence to cut down, top, lop, uproot, wilfully damage or destroy any protected trees without first having obtained permission from the Local Authority. Advice should also be sought when felling trees as a licence will probably be needed. In addition, hedgerows are protected under the [Hedgerows Regulations 1997](#); it is against the law to remove or destroy certain hedgerows without permission from the local planning authority.

Guidance and Further Reading

- The [Town and Country Planning Association](#) has produced a guide, "Biodiversity by Design", which aims to maximise the opportunities for biodiversity in the planning and design of sustainable communities.
- [Natural England](#) and the [Countryside Council for Wales](#) provide information on the requirements of legislation designed to protect wildlife and habitats. Full lists of protected species are provided on the [Natural England](#) website.
- Information on Tree Preservation Orders is produced by the [Department for Communities and Local Government](#).
- Information on felling trees is produced by the [Forestry Commission](#).
- The Environment Agency website, [Netregs](#), provides guidance on the correct handling of invasive weed species.



Woodbridge Airfield © Skanska

Corporate responsibility

What is it?

Business in the Community defines Corporate Responsibility (CR) as:

“the management of a company's positive impact on society and the environment through its operations, products or services and through its interaction with key stakeholders such as employees, customers, investors and suppliers.”

The construction industry has been slow to respond to the Corporate Responsibility (CR) agenda which has been around since the 1970s. Now, increasing regulation in areas such as carbon emissions and waste are forcing companies to improve their processes and many clients are beginning to demand responsible approaches to design and construction.

Increased affluence amongst developed countries has led to an increase in the willingness of the consumer to pay a premium for ethical products as they become increasingly anxious about environmental and ethical issues. Some investors are choosing investments not only on the basis of high returns but also on the ethics of companies in terms of what they produce and how they produce it.

Leading construction organisations have developed CR strategies and policies addressing environmental and social issues and report on their progress on an annual basis. [Research](#) by Arthur D. Little and Business in the Community has found that companies that embrace CR can improve their performance in areas such as reputation and risk management. They have improved employee satisfaction and are more innovative, which leads to increased access to capital and improved financial performance.

What are the Issues?

The term Corporate Responsibility applies to all companies, both outside and within the construction sector, and tends to fall into four spheres:

- Environment
- Community
- Workplace
- Marketplace.

There has been some debate as to how corporate responsibility issues may be meaningfully measured. The Global Reporting Initiative established a [sustainability reporting framework](#) to allow organisations to disclose their performance in a meaningful, credible and reportable way. Defra has also published [guidelines](#) on how to measure and report the environmental performance of businesses.

Guidance and Further Reading

- The Constructing Excellence Members' Sustainability Group has produced a guide to CR in construction, entitled [“Making a Difference: Corporate Responsibility for the Built Environment”](#).
- [Business in the Community](#) works with organisations and companies to continually improve the impact they have on society and the environment through its Corporate Responsibility programme.



Community Work © BAM Construct UK

Further useful links

Further useful links		
BRE	Research, consultancy, training, testing and certification organisation delivering sustainability and innovation across the built environment.	www.bre.co.uk
BREEAM	BRE Environmental Assessment Method for buildings.	www.breeam.org
Business in the Community	Membership organisation of 800 organisations committed to improving their positive impact on society.	www.bitc.org.uk
CIBSE	Chartered Institution of Building Services Engineers	www.cibse.org
CIRIA	Provider of performance improvement products and services in the construction and related industries.	www.ciria.org.uk
Constructing Excellence	Membership organisation promoting industry improvement.	www.constructingexcellence.org.uk
Defra	Department for Environment, Food and Rural Affairs	www.defra.gov.uk
DCLG	Department for Communities and Local Government	www.communities.gov.uk
Forum for the Future	Sustainable development organisation working in partnership with business, higher education, and central, regional and local government.	www.forumforthefuture.org
FTSE4GOOD	Index series designed to measure the performance of companies that meet globally recognised corporate responsibility standards and to facilitate investment in these companies.	http://www.ftse.com/Indices/FTSE4Good_Index_Series/index.jsp
HM Treasury		www.hm-treasury.gov.uk
Institute of Environmental Management and Assessment		www.iema.net
Local Government Association		www.lga.gov.uk
London Sustainability Exchange	Charity promoting sustainable development to strategic planners in London's business and voluntary sectors.	www.lsx.org.uk
Sponge	Network for young professionals sharing an interest in sustainable development and the built environment.	www.spongenet.org
Sustainable Development Commission	UK Government's independent watchdog on sustainable development.	www.sd-commission.org.uk
Town and Country Planning Association		www.tcpa.org.uk
UK Green Building Council	Membership organisation campaigning for a sustainable built environment and to forge new partnerships between government, industry and other stakeholder groups.	www.ukgbc.org
Worldwatch Institute	Independent research organisation providing sustainability analysis for decision-makers in government, business and academia.	www.worldwatch.org

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Charlie Law	BAM Construct UK Ltd	Robert Pearce	Marks and Spencer
Jesse Putzel	BAM Construct UK Ltd	David McLelland	Marshalls Plc
Paul Wilkinson	BIW Technologies Limited	Jaz Vilku	Marshalls Plc
Andrew Kinsey	Bovis Lend Lease (Vita)	Martin Gettings	Metronetrail
Paul Toyne	Bovis Lend Lease (Vita)	Tony Ellis	Network Rail
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Tim Attwood	Conisbee	Andy Cullum	Polypipe
Jon de Souza	Constructing Excellence	Phil Henry	Polypipe
Steve Thompson	Corus	Pritesh Patel	Polypipe
Amy Baldrey	Costain	Rachel Smith	Polypipe
Mike de Silva	Davis Langdon	Adam Turk	Polypipe
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Pete Thompson	East Thames Group	Brian Grew	Rider Levitt Bucknall
Diane Bourne	Eric Wright	Steve Millward	Saint Gobain (Jewson)
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		Henry Lang	Waterman
		Phil Sperring	Wates
		Michael Crane	WhitbyBird and Partners
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