

Building a Better Quality of Life

A Strategy for more Sustainable Construction



April 2000

Department of the Environment, Transport and the Regions: London

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FOREWORD



This Strategy for more sustainable construction is a significant milestone on the road to a more socially and environmentally responsible, better-regarded construction industry. It creates a framework within which the industry can make a strong contribution to the better quality of life signalled by our sustainable development strategy. In its preparation, I think we have captured the very real desire for change which now exists within the industry and amongst its clients.

The Government shapes the legislative, fiscal and general public policy framework within which construction delivers, for example, our homes, schools, hospitals, workplaces and transport systems. And, as the single largest client of the industry, the Government must, and will, show leadership. We will play our full part in making this Strategy work.

But Government alone cannot implement it. That is why I am particularly pleased by the way the construction industry is already responding, demonstrating how the Strategy will be made to work. The challenge for the future is for the industry and its stakeholders, including clients, suppliers and the users of the constructed products, to maintain their support and commitment to sustainable construction. The necessary changes are challenging, and will not happen overnight, but they are achievable.

The agenda for sustainability is a positive one. Let us seize it, and bring about a sea-change in the quality of our buildings and structures, and in our quality of life.

A handwritten signature in black ink, reading "Nick Raynsford". The signature is written in a cursive, flowing style.

Nick Raynsford

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CHAPTER 1

Introduction

Sustainable Development

1.1 In May 1999, the Government published *A better quality of life – a strategy for sustainable development for the United Kingdom*¹. At the heart of sustainable development is the simple idea of ensuring a better quality of life for everyone, now and for generations to come. It means achieving social, economic and environmental objectives at the same time. It will give us a more inclusive society in which the benefits of increased economic prosperity are widely shared, with less pollution and more efficient use of natural resources.

1.2 Sustainable development matters because the need for growth is as great as ever – especially in the developing world. Yet the environment is struggling to cope even with current levels of consumption. We have to find new ways of meeting people's needs, expectations and aspirations to ensure that our economy, our society and our environment grow and develop in harmony.

A Strategy for Construction

1.3 The construction industry has a huge contribution to make to our quality of life. Construction, building materials and associated professional services together account for some 10% of Gross Domestic Product and provide employment

for around 1.5 million people. Buildings and structures change the nature, function and appearance of our towns and countryside. Their construction, use, repair and maintenance and demolition consume energy and resources and generate waste on a scale which dwarfs most other industrial sectors. Construction also provides the delivery mechanism for many aspects of Government policy aimed at the provision and modernisation of the nation's built environment – for example, transport, housing, schools, hospitals and flood defences. The economic, social and environmental benefits which can flow from a more efficient and sustainable construction industry are potentially immense.

1.4 This Strategy aims to provide a catalyst for change in construction across the United Kingdom. It identifies priority areas for action, and suggests indicators and targets to measure progress. It sets out action that the Government has already taken and further initiatives that are planned, and highlights what others can do. The Government will use the Strategy as a framework to guide its policies towards construction², and will encourage people involved in construction to do the same.

¹ ISBN 0-10-143452-9, DETR May 1999

² The devolved administrations in Scotland, Wales and Northern Ireland will, where appropriate, decide how best to implement policies for sustainable development, as indicated in '*A better quality of life*'.

The objectives of this Strategy are:

- to promote awareness and understanding of sustainable construction
- to set out how the Government expects the construction industry to contribute to sustainable development
- to show how Government policies will help to bring about change
- to stimulate action by individual businesses to set, and monitor their progress towards, targets for more sustainable construction which require continuous improvement.

What is Sustainable Construction?

1.5 This Strategy builds on the framework and priorities for sustainable development set out in *A better quality of life*. Amongst those priorities were:

- more investment in people and equipment for a competitive economy
- achieving higher growth whilst reducing pollution and use of resources
- sharing the benefits of growth more widely and more fairly
- improving our towns and cities and protecting the quality of the countryside
- contributing to sustainable development internationally.

1.6 The construction industry can contribute to the achievement of these sustainable development aims by:

- being more profitable and more competitive
- delivering buildings and structures that provide greater satisfaction, well-being and value to customers and users
- respecting and treating its stakeholders more fairly
- enhancing and better protecting the natural environment
- minimising its impact on the consumption of energy (especially carbon-based energy) and natural resources.

A Collaborative Approach

1.7 This Strategy also builds on the response of the construction industry, its clients and stakeholders to the consultation paper on sustainable construction, *Opportunities for change*³, published in 1998 as a supplement to the main sustainable development consultation. From around 300 responses, three main themes emerged:

- a desire for an integrated policy framework for sustainable construction
- strong support for the Government to take the lead as a major customer and sponsor of the industry
- a broad recognition that achieving more sustainable construction required an inclusive and co-operative approach, and was not just for the Government.

³ *Opportunities for change – consultation paper on a UK strategy for sustainable construction* DETR February 1998, product code: 98EP072

1.8 The Government wishes to acknowledge the enthusiastic and helpful assistance and co-operation received from all sectors of the industry during the process of preparing this Strategy. The umbrella bodies, representative organisations, trade associations, research associations, businesses and individuals which contributed are too numerous to list. Some specific contributions have been reproduced in Annexes 1 and 2, which give examples respectively of current good practice and undertakings for future action.

1.9 A Focus Group, including representatives of all the main industry sectors, has worked with the Movement for Innovation and other representative bodies to prepare a response to this Strategy. The Focus Group's report, intended to be read in conjunction with the Government Strategy, seeks to:

- raise awareness
- stimulate action by demonstrating the business case of sustainable construction
- help the industry to measure its performance.

CHAPTER 2

A Sustainable Economic Base for Construction

Economic Performance and Competitiveness

2.1 Sustainable development means meeting needs in ways which deliver social progress, protection of the environment, better resource use, economic growth and employment. It requires a stable and competitive economy. Greater resource efficiency lies at the heart of the sustainable development challenge for construction.

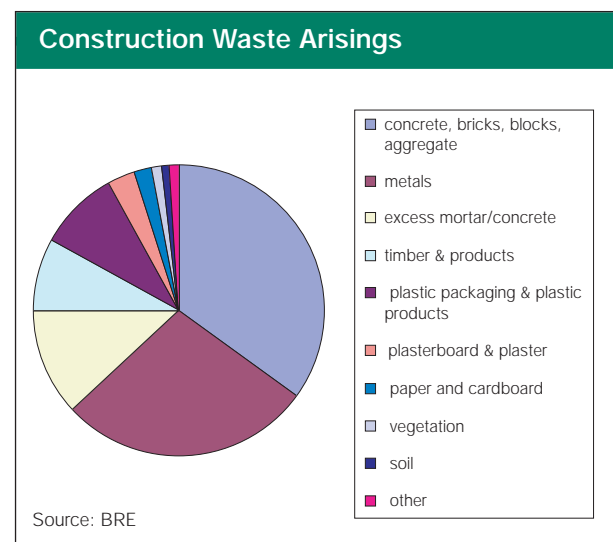
2.2 *Rethinking Construction*⁴ is the title of the report of Sir John Egan’s Construction Task Force. It has become the banner under which the Government, industry and its clients are working together for radical change and improvement in construction performance. The vision of a modernised industry offered by *Rethinking Construction* embraces challenging targets for year on year improvements in efficiency and quality. It will result in an industry which:

- focuses on the needs and expectations of its customers and other stakeholders
- improves its profit margins
- measures and compares its performance
- learns from others and shares experience
- develops and respects people
- undertakes its work in an ethical and sustainable manner.

2.3 The Government will be tracking progress towards achieving the targets set at an industry level against the *Key Performance Indicators* published in 1998⁵. The indicators allow individual companies, supply chains or projects to benchmark their performance and identify strengths and weaknesses.

Doing More with Less

2.4 The need to reduce waste at all stages of construction is a central message of *Rethinking Construction*. Over 90% of non-energy minerals extracted in Great Britain are used to supply the construction industry with materials. Yet every year some 70 million tonnes of construction and demolition materials and soil end up as waste. Some 13 million tonnes of that comprise material delivered to sites and thrown away unused. Poor design and planning also result in wasted time and money and reduced profits.



⁴ *Rethinking Construction – the Report of the Construction Task Force* DETR, July 1998, ISBN 1 5112 0947

⁵ *Construction Industry Key Performance Indicators 1998* Construction Best Practice Programme

2.5 Minimising waste through design can be achieved by avoiding over-specification of materials and services. A co-ordinated approach to design and construction within the supply chain will encourage designs which better meet clients' requirements and result in less waste. Every design does not have to be a prototype. Adopting standardised solutions can also help to reduce waste.



2.6 *Waste Strategy 2000*, due to be published in April 2000, is the Government and the National Assembly for Wales' waste strategy for England and Wales. It aims to encourage greater efficiency in resource use based on the principles of the waste hierarchy. Lean design, and improved construction processes which allow more efficient material resource use, will help to deliver the strategy's objectives. *Waste Strategy 2000* also signals the introduction of a programme to promote sustainable waste management and the markets for secondary materials, to complement other existing best practice programmes. Guidance on greater use of construction and demolition wastes (and of secondary materials such as colliery spoil, china clay sand, industrial ashes and slag) will be included in a revised Minerals Planning Guidance Note 6 (MPG6), to be published in draft by the Government during 2000.

The waste hierarchy suggests that:

- the most effective environmental solution may often be to **reduce** the generation of waste
- where further reduction is not practicable, products and materials can sometimes be **re-used**, either for the same or a different purpose
- failing that, value should be recovered from waste, through **recycling**, composting or energy recovery from waste
- only if none of these solutions is appropriate should waste be **disposed of**, using the best practicable environmental option.

Market Transformation

2.7 Economic instruments are a means by which Government intervention designed to achieve sustainable development can work directly with the grain of the market. The most common type of economic instrument is taxation, which influences prices and can provide an incentive for more sustainable actions.



2.8 The Landfill Tax, introduced in 1996, is influencing waste management practices by encouraging greater diversion of waste from landfill. Increases in the rate of tax were announced in 1999. The current rates of £10 per tonne for active waste will increase by £1 per

tonne year on year until 2004. The rate of tax for inert waste will remain at £2 per tonne. Costs of disposing of construction and demolition waste to landfill can be minimised through more efficient construction and by greater and more innovative re-use and recycling of materials.



2.9 There are also environmental impacts associated with aggregate extraction. The quarrying industry can influence these impacts through the methods it uses to extract and transport materials, while others further down in the construction chain can help to reduce the demand for primary materials by good design and specification of materials, by tighter control of waste on sites, and by re-using and recycling wherever possible. The Government has said that an Aggregates Levy will be introduced in 2002 to reflect the environmental costs of aggregates quarrying and encourage demand for and supply of alternative materials, such as mineral wastes and recycled construction and demolition waste. The Levy will also help tackle the present high levels of waste in the use of construction materials.

2.10 Climate change poses a major global environmental challenge. A Climate Change Levy on business use of energy is planned for introduction in 2001. This will have particular impacts on manufacturers of materials for use in construction. Reduced rates of Levy are proposed for energy-intensive industry sectors, including many construction materials producers, which agree targets for improvements in energy efficiency that meet the Government's criteria. In addition, £100 million will be allocated in 2001/02 to provide enhanced capital allowances for energy

efficiency investments and a further £50 million will be used to provide support for energy efficiency and renewables. Good quality combined heat and power and 'new' renewables (which might include, for example, offshore wind, energy crops and photovoltaic systems) will be exempt from the Levy. The Levy is also expected to be offset by cuts in employers' National Insurance contributions.

2.11 Commercial property occupiers may be liable to the levy, and clearly that would send strong price signals throughout the property supply chain. The Government anticipates that clients would be likely to play a bigger part in the markets for more energy-efficient buildings and building services.

Government as Client



M41 Demonstration project 28 – M60 Manchester Outer Ring Road, Denton-Middleton Section.

2.12 About 40%⁶ of the construction industry's output by value (some £24 billion per year) is purchased by the public sector. The Government recognises its responsibility, as the industry's leading client, to set an example in the sustainable procurement, maintenance and operation of its built assets.

2.13 Guidance to all Government Departments and Agencies stresses the need to assess whole life costs to help get best value from construction procurement. All Departments have made a commitment to introduce environmental management systems under ISO 14001 across their estates and several have already done so. All Departments are putting in place programmes for bringing better quality design into buildings and many are already working with the new Commission on Architecture and the Built Environment to develop benchmarks of design quality.

2.14 All central Government construction clients are expected to endorse during 2000 a programme for more sustainable construction procurement. The programme implements an objective in the 1999 procurement initiative *Achieving Excellence*. That initiative committed Government Departments and Agencies to a phased programme, increasing the proportion of their construction contracts let on *Rethinking Construction* principles to 100% within 3 years. The new programme will require all Departments and Agencies to adopt within 3 years an Action Plan for more sustainable construction procurement, setting targets against which they will monitor and report their progress. The Local Government Task Force is developing a similar approach for local authorities to apply to their construction procurement.

The Environment Agency has set a target that, in the flood defence works it procures, 20% of the aggregates used should be from secondary sources.

The Highways Agency is working with the Quarry Products Association to revise specifications for highways works to allow equal treatment of alternative aggregates.

The London Borough of Enfield published a Sustainable Design and Construction Guide in January 2000 to promote good practice among developers, housing associations, households and contractors working in the borough. The Guide covers themes such as materials, landscaping, waste minimisation energy use and efficiency and water conservation throughout the construction process from pre-inception to the detailed design stage.

⁶ *Constructing the Best Government Client*, Government Construction Clients' Panel, Internet: <http://www.hm-treasury.gov.uk/gccp/>

CHAPTER 3

Construction and its Stakeholders

3.1 Sustainable development is not just about meeting peoples' needs and aspirations in new ways – it is also about meeting them in ways that are acceptable to society. The stakeholders with most direct interest in construction companies are the shareholders, employees, pensioners and those (such as suppliers) who depend on the company for their own viability. All have an interest in the continuing viability of the company, not just now but in the years to come. As private citizens, those stakeholders may also be clients of construction as homeowners or be affected by construction projects in the areas where they live. Increasingly it is these groups which are putting pressure on companies, not just to be profitable, but to act and be seen to act in a socially and environmentally responsible way.

The Image of Construction

3.2 How businesses are perceived, by clients, customers and the general public, is difficult to measure directly but is an important ingredient of success. Organisations which have a reputation for trading fairly, giving value for money, respecting their employees and other stakeholders and protecting the environment are more likely to be able to compete in attracting capital, recruiting and retaining the best people and engaging public support for their activities.

3.3 Public image and acceptability are important for construction organisations, which are moving with the Government to tackle the 'cowboy builders'⁷ – the rogue traders who sully the reputation of the industry. Public concern for the protection of the environment means that, if construction projects are to win widespread public acceptance, the way in which they are carried out will come under closer scrutiny. Organisations will need to be able to demonstrate a concern for sustainability at the heart of their businesses.

3.4 Many investors, including some with a stake in property, have already started to look at social responsibility and environmental performance as well as financial sustainability. They will seek sustainable and healthy returns over the longer term, which in turn will help to drive whole life accounting for built assets. From July 2000, pension funds and local authority pension schemes will be required by law to publish in their Statements of Investment Principles the extent to which social, environmental and ethical considerations are taken into account in their investment strategies.

⁷ *Combating Cowboy Builders – Final Report of the Cowboy Builders Working Group*, DETR August 1999, product code 99 CD 0504

Research commissioned during 1999 by the Focus Group found some evidence, particularly in the commercial property sector, of cultural barriers (sometimes described as a 'circle of blame') within the chain of investors, developers, contractors and occupiers, to more sustainable development of built assets. The barriers have been created largely by a perception that more environmentally efficient buildings incurred higher capital costs and lower financial returns. This view was most strongly held by investors, with developers second. Contractors were the least likely to believe it.

The researchers found that change would be driven primarily by the prospect of lower running costs and more socially and environmentally responsible corporate attitudes. The actors most likely to promote change were occupiers, with contractors again the least likely. The researchers concluded that greater awareness and education would be the principal drivers of change.

Respect for People – Health, Safety and Welfare

3.5 The Building Regulations set minimum standards for the health, safety, welfare and convenience of people in and around buildings. The Regulations are continually reviewed to ensure that they are in tune with the best scientific evidence and data available and with changing public expectations and standards. The Government has recently completed a review and amendments to the Regulations to improve access to new housing for the disabled. It has begun a review of Part E of the Regulations which deals with sound insulation of dwellings. This is in response to the increasing number of complaints about noise pollution in buildings and in recognition of the possible effects of noise on health. Minerals Planning Guidance Note 11 (MPG11), on mitigating and controlling the environmental impacts of mineral working, will be

expanded from its present focus on noise to cover also dust, traffic, blasting and water impacts over the next two years.

3.6 *Rethinking Construction* drew attention not only to the welfare consequences of a poor health and safety record on construction sites but also to the costs in terms of lost work days, and potential enforcement actions, including prosecution and closure of sites. Reducing the frequency and severity of accidents and ill-health requires proper training of staff, good management systems and clean, well-ordered sites. The targets for improvement in accidents on construction sites set by *Rethinking Construction* are being taken forward in the *Key Performance Indicators* being used by the Government to measure and report on industry progress.

Respect for People – Employment and Training

3.7 The industry has an ageing workforce and needs to be able to attract and retain the most able people. It has recognised the need to improve its record in employing women and ethnic minorities and in health and safety. The first sectoral scheme under the New Deal was launched in the construction industry in February 1998, followed a month later by the New Deal in housebuilding. This initiative followed close co-operation between the Government, the Construction Confederation and the Construction Industry Training Board. The industry continues to show commitment to the scheme and current figures indicate that more than 10% of places taken up through the New Deal have been in the construction sector.

3.8 Much more remains to be done to educate the construction workforce, including clients, designers and the suppliers of materials and specialist services, to think in terms of sustainability. Many sector associations and trade bodies, together with professional institutions, are beginning to take this more seriously and have set up mechanisms for promoting change and producing guidance on good practice. An example is the Institution of Structural Engineers' *Building*

for a sustainable future: Construction without depletion, published in 1999⁸. Higher education providers too – both vocational and academic – will need to consider whether their syllabi adequately address the principles of sustainable construction. Improvement may also be needed to the effectiveness of the CPD regime available in many disciplines.

Respect for People – Supporting Local Communities

3.9 Much can be done to integrate construction more fully into local society. Closer working between local authorities and construction businesses helps, as does consulting within the community at project planning stage and during site operations. Involving schools in construction projects shows that construction businesses can be good neighbours, and could influence the career choices of young people.

3.10 The *Considerate Constructors Scheme*, run by the Construction Confederation on behalf of the Construction Industry Board, helps site operators to be socially responsible and act as good neighbours. Participating sites commit to an eight-point code of practice. In return, they benefit from greater local co-operation and wider understanding, promoting the spread of best practice and improved public relations. The Local Government Association has put its weight behind the Scheme by recommending that local authorities should ask all contractors working for them to participate. Private-sector clients too are actively encouraging their contractors to implement the Scheme.

The Overseas Dimension

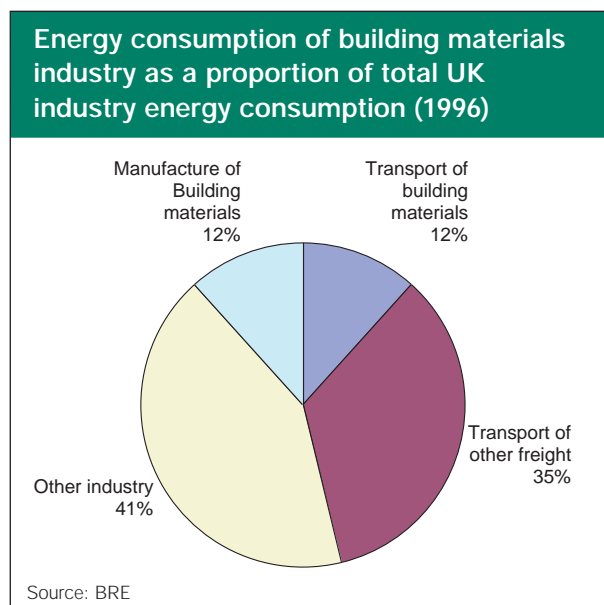
3.11 The construction industry is increasingly an international business, and progress towards sustainability in the UK cannot be considered in isolation from sustainable development elsewhere. Even businesses which do not themselves operate anywhere but in this country can have impacts overseas through their specification and sourcing of materials. The priorities set out in *A better quality of life* include tackling global pressures on the environment and resources and promoting a fair and open trade system that respects the environment. Many countries, particularly in the developed world, already have policies and regulatory regimes designed to achieve outcomes similar to that of this Strategy. Much international work is now in progress on more sustainable construction, with support from UK construction bodies, through, for example, the OECD, the European Commission and the International Standards Organisation. International pressures are likely to drive future convergence of national policies on sustainable development.

⁸ Published by SETO, 11 Upper Belgrave Street, London SW1X 8BH, ISBN 1 874266-50-6

CHAPTER 4

Managing the Environment and Resources

4.1 The annual net change from rural to urban land use is in the region of 6,500 hectares⁹ and some 260 million tonnes of minerals are extracted for use as aggregates and raw material for construction products. Energy is consumed in the production of construction materials such as bricks, cement and metals and in their distribution. The energy produced from non-renewable sources consumed in building services accounts for about half of the UK's emissions of carbon dioxide. Waste streams from construction and demolition place heavy burdens on scarce landfill sites. Poorly managed construction processes cause nuisance and pollution of air and ground water.



4.2 If we are to achieve more sustainable development there is a need to tackle the major impacts of construction on the environment and resources. The Government is approaching this

through a variety of means, through legislation and its enforcement, through fiscal measures, through the development and promotion of strategic guidance and best practice and through its support for research, innovation and demonstration projects.

Better Planning

4.3 The planning system regulates and controls the development of land and provides the national and local context for construction projects. It has a key role in underpinning more sustainable construction. It provides for sites for extraction of construction materials. It ensures that development takes place in the most suitable locations. It encourages the re-use of previously developed urban sites rather than building on greenfield land. It relates major travel-generating land uses – such as shopping or employment centres – to the availability of public transport. And it provides protection for landscapes and townscapes of special character and importance.



⁹ *Land Use Change in England No 14*, DETR Planning Directorate, details on DETR website.

4.4 The Government published guidance¹⁰ in 1998 to help local authorities incorporate the principles of sustainable development into their strategic planning policies, including the specification of building design criteria for individual developments. The revised Planning Policy Guidance Note 3 on housing (PPG3), which emphasises the importance of re-using existing land and buildings, also makes clear the need to build for mixed tenure communities and to take account of physical conditions such as floodplains and natural drainage or other areas of environmental risk. Planning Policy Guidance Note 13 (PPG13) provides guidance on the location and accessibility of land uses so as to promote sustainable transport options. Planning Policy Guidance Note 6 (PPG6), mainly about retail development, focuses on the promotion of town and neighbourhood centres as sustainable locations for retail and leisure services.

Conserving Resources

4.5 The planning system can also influence the use of construction materials to the extent that structure, design and site lay-out of developments may be more, or less, economical in their requirements. Importantly, it gives consent to sites both for the extraction of primary construction materials and for recycling operations. The conditions imposed by such consents may themselves influence prices of materials, and market forces in turn will influence design, specification and construction process efficiency.

4.6 Minerals Planning Guidance Note 6 (MPG6) provides guidance on the policy in this area. MPG6 is currently under review. Subject to consultation, the revised note due during 2001 will help to improve the environmental performance of the aggregate minerals sector of the construction industry. A better, more flexible forecasting system will be developed, giving regions and local authorities greater scope to undertake strategic environmental assessments of policies and proposals. They will also be able to

test proposed supply against the relevant environmental considerations. Planning Policy Guidance Note 10 (PPG10) on Planning and Waste Management (published in 1999) sets out policy for the provision of recycling sites and helps local authorities to identify the best options for locating them.

Tackling Climate Change

4.7 We must reduce greenhouse gas emissions and ensure we plan and adapt for changes that may happen as a result of the level of greenhouse gases already in the atmosphere. The UK Climate Impacts Programme, at the University of Oxford, has been set up by the Government to help organisations assess their vulnerability to climate change and to plan adaptation strategies.

4.8 A draft UK Climate Change Programme was published in March 2000 for consultation. This set out how the UK will meet its Kyoto target to cut emissions of a basket of six greenhouse gasses and move towards its domestic goal. Its publication, together with publication of research by environmental consultants, will be used to start a debate and build wider consensus on adaptation priorities for the UK.

4.9 The Government is reviewing the contribution the Building Regulations can make to the reduction of carbon dioxide emitted by the production of energy from non-renewable sources used in buildings. It has already consulted widely and received many ideas for increasing the impact of the Regulations on energy consumption, not only in new buildings but also in renovating the existing stock and controlling energy consumption in use. The first amendments to the Regulations following from this review are expected to be made in 2000 and begin to come into effect in 2001. The next step will be to consider how climate change will affect buildings and any implications for building regulations and design codes.

¹⁰ *Planning for Sustainable Development – Towards Better Practice*, DETR, September 1998, details on DETR website.

Avoiding Pollution

4.10 Major potential sources of pollution from the construction process are:

- waste materials
- emissions from vehicles
- noise
- releases of contaminants to atmosphere, ground and water.

Strategies for prevention, control and mitigation are well known, and better performance is a matter of better management to ensure that risks are identified and the appropriate techniques and technologies applied. A model *Code of Practice on Particulate Emissions* prepared by the Building Research Establishment, with extensive support from industry bodies and regulatory authorities, is due for publication during 2000. The Code will help to control particle emissions from construction activity and reduce its impact on human health and the local environment.



4.11 Environmental Management Systems (EMS), such as ISO 14001 and the Eco-Management and Audit Scheme (EMAS), allow accurate monitoring of environmental impacts throughout the supply chain and identify mechanisms for reducing them. So far, market penetration in the construction industry is relatively low, and some businesses are reluctant to seek formal accreditation because they think the cost and record keeping involved might be disproportionate to the commercial benefit. Nevertheless, informal adoption of the principles is a useful starting point for demonstrating acceptance of environmental responsibility. Guidance is now available on the integration of EMS with the principles of sustainable development at the business level¹¹, and research shows that there can be substantial benefits from bringing them together.

¹¹ *The Natural Step and ISO14001* Published by BSI (telephone: 020 8996 9000, website: www.bsi.org.uk) and The Natural Step (telephone: 01242 262 744, e-mail: info@naturalstep.org.uk)

CHAPTER 5

What the Construction Industry can do

Practical Actions

5.1 Managing and reducing the environmental impact of buildings and structures and the processes of construction is a common starting point for many organisations wishing to address sustainability. Reducing consumption of materials and land, minimising waste, using recycled materials, embracing energy efficiency and managing site operations better to avoid pollution are good for business as well as the environment.

5.2 Some organisations find it hard to know where to start and what to concentrate on. The ten themes below give some pointers for practical actions which construction organisations can take. Many of the themes overlap and actions to implement one will often help with others.

10 THEMES FOR ACTION

Re-use existing built assets – Meeting clients' functional requirements may not require new buildings and structures. Refurbishment and/or renovation which improves their sustainability may work better.

Design for minimum waste – Design out waste both during construction and from the useful life – and afterlife – of the building or structure. Think whole life costs. Involve the supply chain. Specify materials with care and consider more efficient use of resources. Think about using recycled materials.

Aim for lean construction – Work on continuous improvement, waste elimination, strong customer focus, value for money, high quality management of projects and supply chains, improved communications.

Minimise energy in construction – Be aware of the energy consumed in the production and transport of construction products. Adopt 'green' travel policies.

Minimise energy in use – Consider more energy efficient solutions in design including passive systems using natural light, air movement and thermal mass, as well as solutions involving energy produced from renewable sources.

Do not pollute – Understand your environmental impacts and have policies and systems to manage them positively. Use environmental management systems under ISO 14001 or EMAS. Join the *Considerate Constructors Scheme*.

Preserve and enhance bio-diversity – Look for opportunities throughout the construction process – from the extraction of raw materials, through the construction phase, to the landscaping of buildings and estates – to provide and protect habitats.

Conserve water resources – Design for increased water efficiency in building services and water conservation within the built environment.

Respect people and their local environment – Be responsive to the community in planning and undertaking construction. Consider your workforce.

Set targets – Measure and compare your performance with others. Set targets for continuous improvement.

Research, Innovation and Best Practice

5.3 Research and innovation can help construction organisations to develop more sustainable practices and measure the business benefits. The Government and its Agencies support a range of services that provide help and advice to companies on innovation and best practice in achieving greater sustainability. These include the Construction, Energy Efficiency and Environmental Technology Best Practice Programmes. Contact details for these and other sources of help and advice are given in Annex Three.

CHAPTER 6

Action, Measuring Progress and Reporting

Action by Government

6.1 This Strategy sets the framework for action to deliver sustainable construction. It says what the Government is doing and proposes to do in developing a mix of regulatory, economic and other instruments. These will be backed by the provision of information, help and advice that will encourage and facilitate progress.

6.2 Policy instruments such as economic instruments and regulation complement market forces as drivers of change. Taxes can be set so as to reflect environmental or social damage directly in market prices, while regulation, if properly targeted and designed to ensure that social and environmental benefits exceed commercial costs, will also set a more sustainable market framework. The Government will review the use of policy instruments as part of its monitoring of the impacts of this Strategy, and propose future changes if necessary.

Action by the Industry

6.3 Government action alone cannot achieve sustainable construction. Voluntary action by industry is essential to change the passive culture of compliance – the ‘just tell us what we’ve got to do and we’ll do it’ way of thinking which inevitably leads to a negative perception of sustainability as the cause of additional burdens and increased costs. Much of what needs to be done is about competitiveness and survival in the global economy and is good business sense. Some is corporate responsibility and enlightened self-interest. Increasingly, the industry will recognise that there is a business case for better social and environmental performance, and thus competition

pressures will play a significant part in bringing about more sustainable construction.

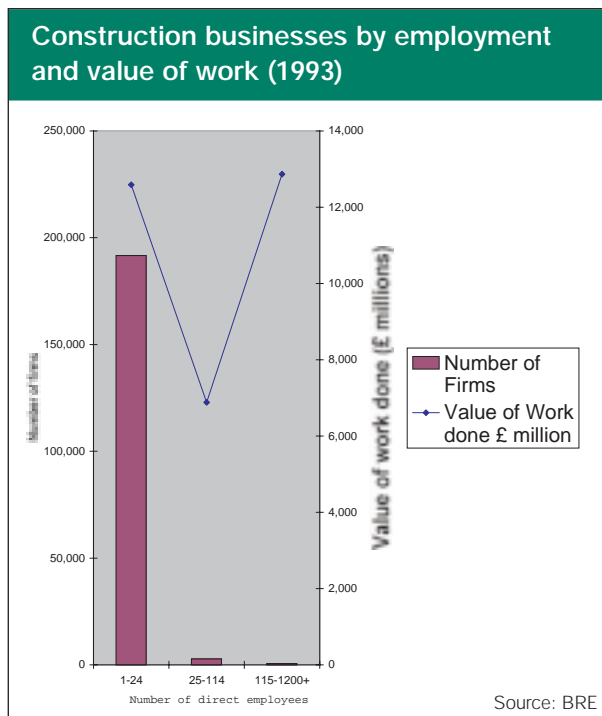
6.4 Concerted action by business sectors, including supply chain initiatives, will be important. The Government will be encouraging sector representative bodies and construction trade associations to develop sectoral sustainability strategies. These will provide a framework for sectors to assess their economic, environmental and social performance; identify areas for improvement in the light of future opportunities and threats; set targets and implement action plans to bring about those improvements; and then to report on progress to stakeholders. In some cases, these sector sustainability strategies will incorporate negotiated or voluntary agreements on specific topics such as energy use.

6.5 More radically, sectors may wish to think about proposing voluntary strategies flexible enough to allow internal markets to develop in certain aspects of sustainable construction, such as the use of materials. These arrangements could work in a way similar to the proposed provision for emissions trading within the forthcoming Climate Change Levy agreements, and would be a powerful tool to help create more sustainable construction projects.

Action by Individual Businesses

6.6 Individual businesses are at different stages on the path towards sustainable development. They also vary, depending on the nature of their business, according to the time horizons they adopt. For example, specialist contractors are likely to operate business cycles measured in

weeks, while investors will tend to plan their strategies over perhaps 10 years or more.



6.7 Many businesses start their engagement with sustainability by developing an existing agenda. For example, a popular step is to add pollution issues to the health and safety agenda. This Strategy suggests some practical actions which organisations beginning to get to grips with sustainable construction can take. Other businesses have already progressed further towards a more strategic approach, considering all their contributions to the economic, environmental and social objectives of sustainable development in an integrated way. The suggestions which follow address a number of broader actions which businesses can take.

Some of the actions you can take in your business –

Make a commitment to address your impacts – Do your bit for efficient resource use, energy and water consumption, waste, transport, emissions, etc. Consider adopting a formal management system (i.e. ISO 14001 and/or EMAS) or signing up to the Government's Corporate Commitment campaign.

Aim to be 'best in class' – Explore the scope for greater eco-efficiency in all aspects of the business. Make full use of benchmarking and other techniques as well as the help and advice available from Best Practice Programmes.

Embrace the principles of producer responsibility – Care about what happens to built assets at the end of their lives. Work towards greater recycling and recyclability. Take account of the different aspects from 'cradle to grave' in supplying construction and construction services. Consider all the implications and opportunities at the design stage.

Respect people – Be a good employer by encouraging fairness and decent conditions at work, helping staff to develop their skills. Introduce green transport plans. Be a good neighbour, by responding to the local community in planning and undertaking construction. Be an ethical trader.

Communicate with stakeholders – Report on environmental, economic and social performance against meaningful targets to clients, the workforce, local community, shareholders.

Work with others – Specify what you want and help others throughout your supply chain to comply. Work with your supply chain to improve overall performance and safeguard your reputation as well as theirs.

Measuring Progress and Reporting

6.8 The Government is already committed to tracking progress towards the targets set in *Rethinking Construction* against an annually published set of *Key Performance Indicators (KPIs)*. To this set, presently comprising ten separate indicators, will be added another KPI to measure sustainability at project level. The indicator will bring together, weight and quantify a range of factors, including waste, energy, water, ecology, transport and recycling. It is currently being developed and tested by the Movement for Innovation and will be published during 2000.

The 10 Key Performance Indicators (KPIs), endorsed by the Government, the Movement for Innovation, the Construction Industry Board and the Construction Best Practice Programme, presently in use address both project performance, through:

- construction cost
- construction time
- predictability – cost
- predictability – time
- defects
- client satisfaction – product
- client satisfaction – service

and company performance, through:

- safety
- profitability
- productivity

They help:

- designers, consultants, contractors and sub-contractors to benchmark their performance against the rest of the industry, and
- clients to evaluate their service providers against a broader range of parameters than just 'price'.

6.9 The sustainable development strategy A *better quality of life* is underpinned by a national set (*Quality of life counts*¹²) of around 150 indicators and a sub-set of 14 'headline' indicators. These will be at the core of reports on progress. Three of the indicators in the national set:

- Construction waste going to landfill
- Primary aggregates output per unit of construction value
- Amount of secondary and recycled aggregates used compared with virgin aggregates

are directly relevant to the environmental impacts of construction, and a larger number of other indicators, including social and economic areas, will be influenced by the construction industry.

6.10 The Government intends to endorse a broad set of practical indicators, after consultation with the industry, against which companies and supply chains can assess their performance in sustainable construction, at both business and project levels. These are currently being developed in a collaboratively funded project with the Construction Industry Research and Information Association (CIRIA).

6.11 The Government proposes to publish once a year the latest information about progress against all these indicators. The report will account for the actions that Government and the industry have taken and explain the action proposed to promote more sustainable construction.

¹² *Quality of life counts: Indicators for a strategy for sustainable development for the United Kingdom: a baseline assessment* ISBN 1-85112-343-1, DETR, December 1999.

6.12 Meanwhile, most construction businesses will find it helpful to measure their present engagement with, and understanding of, the various strands of the sustainable construction agenda. This exercise will help them set priorities for achieving better performance, and will give them a basis for choosing appropriate indicators of progress and setting their targets. The matrix set out below offers a model for linking engagement with sustainability to business management processes. It is based on the Good Practice Guide

*'A strategic approach to energy and environmental management'*¹³ published in 1996.

6.13 Comparison with examples of current good practice in various industry sectors may help businesses assess their current position, while an idea of what some of the major players already plan to do may help with planning actions and setting targets. Annex One covers the former, Annex Two the latter. Annex Three includes some sources of help and information.

MANAGEMENT FUNCTIONS						
	Policy	Allocation of responsibilities	Communication	Operational procedures	Forward planning	Auditing
Best Practice	Published, with targets, reviews and promotion	Overall responsibility with a senior manager and regular progress reviews	Regular dialogues with key stakeholders and supply chain, performance major focus for reports	Procedures integrated into a manual, widely promoted and regularly updated	Action plan for 'future proofing', regularly updated and supported by research	Company-wide audit scheme conforms to ISO 14001, with regular review and independent auditing linked to review of action plan
Nearly there	Comprehensive internal statement, with indicators for some issues.	Management responsibilities within each project team	Information on sustainability issues reported to senior managers, shared with key stakeholders	Public commitment to award schemes. Routine use of Key Performance Indicators for all projects	Prediction of longer term market and regulatory trends, analysis of business development needs	All projects audited and reported – results fed back to clients and supply chain
On the way	Formal statement setting out position on sustainable development	Responsibility for sustainability assigned to one manager	Agreement with clients on sustainability objectives and targets. Data collected on most sustainability issues	Routine use of sustainability design and planning tools and Codes of Practice	Medium term skills and competency needs identified, and recruitment and training initiated	Major projects audited to assess performance against targets set with clients, results reported to senior management
Starting up	Informal guidelines setting out position on some environmental issues and social aspects	One or more individuals with adopt informal advocacy role	Some data requested routinely on issues such as health and safety and pollution	Procedures for site-related compliance with regulated issues	Ad-hoc reviews of business impact of recent or imminent environmental and social regulation	Occasional project audits environmental and regulatory issues, with no quantification of costs and impacts, and no follow-up
Pre-sustainable	No written policy	No staff resource active in management of sustainability issues	No awareness of sustainability, and no dialogue with stakeholders	No references to sustainability	No consideration of future sustainability of the business	No management audits of performance

¹³ *Good Practice Guide 200*, published by DETR's Energy Efficiency Best Practice Programme, 1996. For contact details, see Annex Three.

ANNEX ONE

Examples of Current Good Practice

1 The **Construction Clients Forum** has developed a 'project pact' for good practice. This is an extract dealing with whole life cost issues:

- Clients represented on the CCF commit themselves to:
 - appraise whole life costs, not just the 'bottom-line'
 - help to draw up a national measure for whole life costs
 - accept more standardised products
 - incorporate a commitment to eliminating waste and to continuous improvement in the qualification process for contractors
- Clients represented on the CCF will look for consultants, contractors and other suppliers willing to:
 - help clients to save money over the life of the building rather than delivering a one-off product
 - improve industry-wide standards on safety and waste
 - improve input on standardisation throughout the supply chain
 - demonstrate their confidence by offering warranties/service agreements reflecting the design life of the product

2 **Bovis Lend Lease** has a corporate sustainable construction policy. This is an extract from the section on design:

Changing the emphasis and thinking of design

The energy a building consumes in its lifecycle has a far greater effect on the environment than the energy used in construction, and extracting the materials. Sustainable construction is about considering the long-term effects of design for the life of the building and its occupants. The key to success is the breaking down of barriers to make sure that all the players communicate and consider environmental issues at all stages of the process. There is a fundamental need for 'joined-up' thinking when considering project funding – capital expenditure needs to reflect operational budgets, in order for us to achieve tangible long-term environmental and cost benefits.

Architectural design: take account of material resources – specifying renewable materials instead of those scarce in supply or energy intensive during extraction and processing. The quality of materials used also affects maintenance and the overall life expectancy of the building.

Structural design: consider energy costs – opting for lightweight buildings or heavy construction? Pay close attention to the use of whole life costing and environmental life cycle assessment in order to optimise building design and improve environmental performance over the entire life cycle, from cradle to grave.

Services design: focus on energy-efficiency and use of renewable energy instead of energy and resource intensive designs. Implement low-flush toilets, super-windows that can control heat loss and gain and reduce HVAC needs, or automatic switch-off lighting and labelling of all light switches.

Bovis Lend Lease can bring designers together with contractors to standardise design. Standardisation increases buildability and reduces site waste from offcuts.

3 The **Concrete Tile Manufacturers' Association (CTMA)** has produced a voluntary Code of Practice on packaging material:

The Code encourages efficient re-use of wooden pallets to minimise waste and enable CTMA members to meet their obligations under the Producer Responsibility Obligations (Packaging Waste) Regulations 1997. The self-funding scheme set up under the Code, enables CTMA members to charge a deposit for the use of each pallet and then credit the customer's account with any pallets returned undamaged.

4 Building contractor **Mansell** has become the first construction business in the UK to achieve an integrated assessment and registration by BSI of its quality (ISO 9002) and environmental (ISO 14001) systems with its operational health and safety schemes (BS 8800):

Implementation is taking place in stages across all Mansell's construction sites. The effects, according to the business improvement director, will be a leaner business which focuses on clients' needs, cuts out duplication and waste, improves workflow and builds on partnerships.

5 The **Timber Trade Federation** has:

- encouraged its membership to adopt an environmental purchasing policy:

The policy provides a framework for ensuring imports come from legal and well-managed sources by seeking evidence of good forest management and encouraging improvements in suppliers' environmental performance. Over 100 companies have so far adopted the Policy.

- contributed to the school curriculum:

Through the Federation's support of the Forest Education Initiative, it has contributed to the publication of National Curriculum study material. Its effectiveness is enhanced by the provision of an activity-based learning programme for schools through local 'cluster' groups involving timber companies and organisations.

6 **CIRIA** produces a guide to assessing and managing noise on construction sites:

How much noise do you make? provides information in a readily accessible format on the assessment and control of noise arising from construction work. It is particularly relevant to site managers and supervisors but also to estimators, planners and environmental advisers.

7 The **British Ceramic Confederation** has prepared an environmental code for members:

The *Environmental Code for the Heavy Clay Industry* has been distributed to all member companies, to encourage them to adopt environmental practices which demonstrate publicly their commitment to high environmental standards. The Code deals with the extraction of clay from quarries and emphasises the need both for the careful restoration and the protection of the ecology and bio-diversity of the surroundings. A statement of principles is supported by detailed objectives for a full range of operational activities.

8 **Castle Cement** has secured the certification to ISO14001 of its three major factories and also seeks to involve local communities in its activities:

The company hosts regular meetings of a local liaison committee to ensure that local representatives are informed of new business developments and to provide a forum for discussion. Its community newspaper *Open Door*, and regular open days, inform local inhabitants directly. And the community benefits from Castle Cement's support of local amenities and groups.

9 A major project to replace the Princess Margaret Hospital in Swindon, led by **Carillion**, shows how sustainable construction works at various stages and levels:

Carillion is the lead partner in the PFI consortium developing a £148 million hospital project for the client, Swindon and Marlborough NHS Trust. The project was accepted by the Movement for Innovation as a demonstration project, innovating particularly in Partnering the Supply Chain.

An early decision was made by Carillion to adopt principles of sustainable construction, and they have joined with 'The Natural Step', an international movement for sustainable development, run in Britain by Forum for the Future, for support and guidance. The Natural Step follows four simple key principles to help people make judgements in a systematic and integrated way.

Carillion's strategy to deliver a sustainable hospital involves four elements:

- commitment by senior management
- culture change through education and professional development
- enthusing the supply chain through training
- an Action Plan agreed by all parties, disseminated through workshops

The Action Plan links 10 design, process and operation topic areas. These are *materials selection, energy use, plant equipment and specification, wildlife, local nuisance, transport, construction methodology, community relations, waste management and landscape and visual impact*. Each area of the Action Plan sets out the things to encourage and those to discourage. For example, action on local nuisance involves good communication, partnerships on initiatives and conformance with the Considerate Constructors Scheme, while road usage near housing, dust and out of working hours operations are discouraged. Action on landscape and visual impact encourages rainwater capture, local plants and organic materials, and discourages include importing of soil and the use of herbicides and fertilisers.

Application of the Action Plan to this project predicts significant, and measurable, positive impacts on energy use, carbon dioxide emissions, waste, safety, sustainability of materials and local employment, during both the construction phase and throughout the life of the hospital. The targets for lifetime savings are 30% in carbon dioxide emissions and 50% in waste generation. And the value of the asset at the end of its predicted life as a hospital will be enhanced, because the buildings and their services have been designed for flexibility in re-use.

In terms of the business benefits, the innovations in procurement will save 7% on the cost of the building envelope. The Action Plan will deliver additional savings. For example:

- in **energy** – doubling the U-value of the roof insulation over the design brief cost £21,000, but saves £27,000 on capital cost of radiant appliances on top floor and £213,000 in running cost over building life – net value £219,000
- in **materials** – not using paint or varnish on internal joinery, and applying wood soap instead, cost £156,000 for different timber, but will save £965,000 on coatings over the building life – net value £809,000

The only quantifiable cost to the company from the Action Plan was the investment in initial training, at about 1 day per team member.

10 The **Property Environment Group (PEG)**, co-ordinated by Environmental Governance, has brought together the various parties involved in the property industry to share information and support on sustainability issues. Members of the Group include investors, developers, contractors and occupiers, across the broad spectrum of the property industry. The Group aims to start breaking down the 'vicious circle of blame' which acts as an obstacle to the development of more sustainable buildings:

PEG has:

- organised annual benchmarking surveys of corporate environmental engagement, to enable companies to compare the extent of their environmental management with their peer group and industry good practice and assist them in developing and implementing their corporate environmental strategies.
- provided a half-yearly information service which provides information and practical guidance on environmental policy, legislation, management and technical issues.
- organised twice-yearly seminars to allow members to network and share their experiences of environmental management in the property and construction sectors.

11 An example of a well-established and popular network is the **Construction Industry Environmental Forum (CIEF)**, launched in 1991 to improve the environmental and sustainability performance of organisations with an interest in construction:

Managed by CIRIA in association with BRE and BSRIA, and supported by DETR as an element of the Construction Best Practice Programme, the CIEF offers a network for cross-industry information exchange on sustainable construction issues. The Forum also intends to produce guidance, promote environment-related research and identify opportunities for innovation. Regular CIEF meetings, including discussion workshops, best practice conferences and site visits, are held in Scotland, North West and South East England.

ANNEX TWO

Examples of Commitments to Action

1 The **Construction Round Table** represents some of the largest UK clients. It has agreed to commit its members to a programme of continuing improvement in their activities related to the procurement and management of built assets:

All Construction Round Table members have already taken steps that will contribute to the initiative, and will pursue these within a common framework consistent with the CRT's Agenda for change.

To provide focus and drive on behalf of the Construction Round Table, an Action Group has been formed from representatives of each member organisation. Initially the Group is assisting members with the auditing stage of the programme, and, when that has been completed, it will work essentially as a benchmarking team, developing targets and mechanisms, sharing ideas and reporting on progress.

2 The **British Council of Offices (BCO)** publishes a best practice guide, which is widely used as a benchmark by the property industry:

The BCO has agreed to expand and update its Urban Office Specification relating to sustainability, and has asked BRE to help with the revision work.

3 The **Construction Products Association** is committed to active promotion of environmental management systems (EMS) among their members:

The Association has agreed to follow up the joint BMP/ACPS collaborative 'Environment, Competitiveness and Profitability' report, jointly carry out a benchmarking exercise to quantify the current take-up of EMS, and then monitor annually any change.

ANNEX THREE

Sources of Help and Information

This Annex does not attempt to include all sources of help and information. Most of the references listed here relate to initiatives mentioned in the text of the strategy.

Department of the Environment, Transport and the Regions

Contact: Sustainable Construction Team
Eland House, Bressenden Place,
London SW1E 5DU
Telephone: 020 7944 3000
Internet: <http://www.detr.gov.uk>

Free DETR leaflets and publicity material are available from:

DETR Free Literature
PO Box 236
Wetherby, West Yorkshire LS23 7NB
(Tel: 0870 1226236, fax 0870 1226 237)

The Stationery Office Publications can be ordered from any good bookseller, or from:
The Stationery Office Ltd
Publications Centre
PO Box 276
London SW8 5DT
(Tel. 020 7873 9090, fax 020 7873 8200)

DETR Sponsored Initiatives

CONSTRUCTION BEST PRACTICE PROGRAMME

Supported by DETR and the Construction Industry Board. Raises awareness of the benefits of best practice in management and business process and signposts sources of help and advice to give organisations and individuals the knowledge and skills to implement change.

PO Box 147, Bucknalls Lane, Garston, Watford, WD2 7RE, Telephone: 0845 605 5556, Fax: 01923 664690, Internet: <http://www.cbpp.org.uk>
E-mail: pmu@cbpp.org.uk

DESIGN ADVICE SERVICE

Provides professional, independent and objective advice on the energy-efficient and environmentally conscious design of new buildings and refurbishment projects. Clients are offered a one-day consultancy on their chosen building project. Consultancy is available for designs with a minimum floor area of 500 square metres.

The Design Advice Service, Building Research Establishment, Garston, Watford, WD2 7JR
Telephone: 01923 664258, Fax: 01923 664787
Internet: <http://www.bre.co.uk/brecsu>
E-mail: DesignAdvice@bre.co.uk

ENERGY EFFICIENCY BEST PRACTICE PROGRAMME

Provides impartial, authoritative information on energy efficiency techniques and technologies in buildings. (Industrial processes are covered in a separate sub-programme.) Information is intended mainly, though not exclusively, for architects, building services engineers, designers and facilities managers. Works closely with professional bodies including Chartered Institute of Building Services Engineers, Royal Institute of British Architects and Royal Institution of Chartered Surveyors.

BRECSU, Building Research Establishment,
Garston, Watford, WD2 7JR, Telephone:
01923 664258, Fax: 01923 664748
Internet: <http://www.bre.co.uk/breacu/>
E-mail: breacu@bre.co.uk

ENVIRONMENTAL TECHNOLOGY BEST PRACTICE PROGRAMME

Provides free advice and guidance for businesses on implementing cost-effective measures to improve environmental performance by reducing waste at source. The ETBPP produces audited case studies of a wide range of companies that have already reduced wastes and saved money. Particularly serves smaller businesses.

Helpline: 0800 585 794 (UK businesses only)
Fax: 01235 463804
Internet: <http://www.etbpp.gov.uk>

PROPERTY ADVISORY GROUP

Advises Government on land, property and development issues. The Group's membership reflects a wide range of backgrounds and expertise in the property world.

Secretariat: DETR, Zone 3/G10, Eland House,
Bressenden Place, London, SW1E 5DU
Telephone: 020 7944 5557

STANDARD ASSESSMENT PROCEDURE

A labelling system which provides a simple, reliable indication of the energy efficiency of a home, allowing different ones to be easily compared. The SAP 80+ initiative was launched in November 1995 to encourage housebuilders to produce, and market effectively, dwellings with a SAP rating of 80 or more. A revised SAP 1998 is the energy rating method approved for the purposes of demonstrating compliance with Part L of the Building Regulations from 1 July 1999.

Copies of "The Government's SAP for Energy Rating of Dwellings – 1998 Edition" are available free from the **Energy Efficiency Best Practice Programme** (see above)

Construction Industry Initiatives

BREEAM

A tool for quantifying the environmental effects of buildings.

BREEAM Office, Centre for Sustainable Construction, Building Research Establishment, Garston, Watford, WD2 7JR
Telephone: 01923 664462, Fax: 01923 664103
Internet: <http://www.products.bre.co.uk/breeam>
E-mail: breeam@bre.co.uk

CONSIDERATE CONSTRUCTORS SCHEME

Administered by the Construction Confederation on behalf of the Construction Industry Board. The scheme helps site operators to be socially responsible and act as good neighbours. Participating constructors have to adhere to a comprehensive eight point code of considerate practice. In return companies benefit from promoting the spread of best practice and improved public relations.

Considerate Constructors Scheme, PO Box 75,
Great Amwell, Ware, SG12 9UY
Telephone/Fax: 01920 872837
Internet: <http://www.thecc.co.uk>
E-mail: considerate.constructors@dial.pipex.com

ENVIRONMENTAL PROFILES

Provides a methodology for comparing the environmental performance of materials, components and systems. Other products presently being developed will combine the data available for profiling with assessment methods into software tools, which designers and specifiers will be able to use for instant assessment of the impacts of building designs. The Profiles method was developed from a DETR-sponsored project in which more than 20 construction materials representative bodies participated.

Centre for Sustainable Construction, Building Research Establishment, Garston, Watford, WD2 7JR
Telephone: 01923 664462, Fax: 01923 664084
Internet: <http://www.bre.co.uk/envprofiles/>
E-mail: edwardss@bre.co.uk

Other useful information

TRANSPORT PLANS FOR BUSINESS

'Changing journeys to work: an employers' guide to green commuting plans 1997'

Sets out the various stages of implementing plans.

Obtainable from Transport 2000.
Telephone: 020 7388 8386, Fax: 020 7388 2481

SOCIAL AND ETHICAL BUSINESS

New Deal for Young People – as part of the Government's welfare to work strategy.
Telephone: 0845 606 0680
Internet: <http://www.newdeal.gov.uk>

The Ethical Trading Initiative
Telephone: 020 7831 8677 Fax: 020 7405 5943
Internet: <http://www.ethicaltrade.org>
E-mail: eti@eti.org.uk

Global Citizenship Unit
Telephone: 020 7270 2670 Fax: 020 7270 3443

ENVIRONMENTAL REPORTING

'Getting Started' and *'Guidelines for company reporting on greenhouse gas emissions'*
Telephone: 020 7944 6568 Fax: 020 7944 6559
Internet:
<http://www.environment.detr.gov.uk/envrp>

INTERESTED IN MAKING OR RENEWING A CORPORATE COMMITMENT?

'Corporate Commitment 21 – the redevelopment of the Making a Corporate Commitment (MACC) campaign'
Telephone: 020 7944 6669. Fax: 020 7944 6659

'Are you doing your bit' – national campaign
Telephone: 020 7944 3131 (campaign office),
0345 868686 (for a consumer information pack or to place a bulk order for 'top tips' leaflets)
Internet: <http://www.doingyourbit.org.uk>