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Achieving sustainability in construction procurement

Sustainability Action Plan



Office of Government Commerce

Movement for
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M⁴I



Achieving Sustainability in Construction Procurement

**Produced by the Sustainability Action Group of the
Government Construction Clients' Panel (GCCP)**

June 2000

The Government Construction Clients' Panel (GCCP) Sustainable Construction Action Group

This document was produced by the GCCP Sustainability Action Group as part of the 'Achieving Excellence' initiative and endorsed by the GCCP at its April 2000 committee meeting.

The GCCP Sustainability Action Group was Chaired by Mr John Hobson, Head of Construction Directorate, DETR. The following Departments and Agencies were represented in the membership of the group.

Defence Estates (MoD)
Department for Education and Employment
Department of Environment Transport and Regions
English Heritage
Environment Agency
Health and Safety Executive
Highways Agency
NHS Estates
Office of Government Commerce
Prison Service

The Centre for Sustainable Construction, BRE, provided the Secretariat for the Action Group.

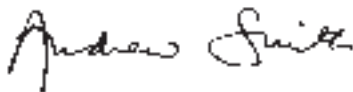
Foreword for “Achieving Sustainability in Construction Procurement”

As a major construction client, Government has an important role in driving the sustainability agenda by improving its own performance and translating that into its demands on suppliers. While the agenda is growing rapidly and industry is without doubt taking bigger steps towards addressing sustainability in its performance, the Government as client is clearly in a position to drive forward the agenda more widely and more quickly.

That is a considerable challenge for any organisation but through “Achieving Sustainability in Construction Procurement” we are accepting and addressing that challenge. It clearly sets out how Government clients will take forward the sustainable development agenda through better procurement of new works, maintenance and refurbishment. This will deliver better value for money for occupiers, users and the public and will make clients and, in turn, suppliers fully aware of their responsibilities regarding sustainability.

The recommendations set out in this report are fully endorsed by the Government Construction Clients’ Panel and should now be adopted by Government clients with full implementation by March 2002. I would ask the industry to prepare for the changes ahead and to support them. Improved sustainability is to everyone’s advantage.

I am delighted to endorse the report and to commend these targets to central Government clients.



Andrew Smith

Chief Secretary to the Treasury

Achieving sustainability in construction procurement

Executive Summary

In the move towards sustainable construction, the clients of the construction industry have a key role. The responses to the Government's 'Opportunities for Change'¹ consultation stressed that the industry expect Government to take a lead as clients for public works, as regulators and legislators. In 'Achieving Excellence'² the GCCP declared its commitment to change and improvement in the performance of the Government as a construction client. Furthermore, the GCCP Action Plan (Management Objective 1.5) underlined this commitment by setting up a 'Sustainability Action Group' to investigate how construction procurement can contribute to policy in sustainability.

Government procurement policy requires all public procurement be on the basis of value for money. Value for money is the optimum combination of whole life costs and quality (or fitness for purpose) to meet the users' requirements. Although the overarching aim of procurement must always be the achievement of value for money and not the delivery of policies such as environmental sustainability, there is much that can be done on sustainability issues within the value for money approach.

As with 'Achieving Excellence' construction procurement is taken to include new works, refurbishment and maintenance projects. To move and to measure progress in a sustainable direction, a framework and a set of goals, are needed. The framework used is based upon the 10 themes for action included in the strategy for more sustainable construction 'Building a Better Quality of Life'³. Included are suggested commitments that will over the next three years result in:

- procurement in line with value for money principles on the basis of 'whole life costs
- less waste during construction and in operation;
- targets for energy and water consumption for new projects that meet at least current best practice for construction type and which contribute significantly to the achievement of cross-government targets agreed by Green Ministers;
- the protection of habitat and species taking due account of the UK Biodiversity Action Plan and the biodiversity action checklist for departments agreed by Green Ministers;
- targets developed in terms of 'respect for people' for procurement of the government estate; and
- a contribution to the goals of less pollution, better environmental management, and improved health and safety on construction sites;

The GCCP has endorsed actions and a timetable for implementation at two levels:

At the first level, a collective one, the GCCP sets targets for implementation as a group with a timetable of 'milestone targets'

At the second level, and running in parallel with the first, departments, agencies and NDPBs assess their current situation, and develop their own action plans (or update existing plans) including setting or refining targets in line with the overall objectives, but specific to the individual department's activities

1 Opportunities for Change: Consultation Paper on Sustainable Construction. DETR 1998 (see www.construction.detr.gov.uk)

2 'Achieving Excellence' : GCCP, 1999 (see www.hm-treasury.gov.uk/gccp)

3 Building a better quality of Life' DETR, April 2000 (see www.construction.detr.gov.uk)

Achieving sustainability in construction procurement

Background

The publication of 'A better quality of life'⁴ laid out firmly the Government's commitment to sustainable development and the publication of the strategy for more sustainable construction 'Building a better quality of life'⁵ places construction at the heart of this agenda. In the move towards sustainable construction, the clients of the construction industry have a key role. Further more, the 'Egan Report'⁶ and the DETR/HSC Consultative Document⁷ point to the role that clients can play.

In 'Achieving Excellence'⁸ the GCCP declared its commitment to change and improvement in the performance of the Government as a construction client. Furthermore, the GCCP Action Plan (Management Objective 1.5) underlined this commitment by setting up a 'Sustainability Action Group' to investigate how construction procurement can contribute to policy on sustainability. This document reports the findings of the Action Group, recommending actions and a timetable for implementation for adoption by departments within the GCCP.

Procurement on the basis of value for money

Government procurement policy requires all public procurement be on the basis of value for money. Value for money is the optimum combination of whole life costs and quality (or fitness for purpose) to meet the users' requirements. Although the overarching aim of procurement must always be the achievement of value for money and not the delivery of policies such as environmental sustainability, there is much that can be done on sustainability issues within the value for money approach. This is achieved by building relevant factors relating to sustainable development and the environment into contract specifications e.g. specifications may reflect environmental matters in keeping with departmental green strategies and by taking award decisions on the basis of 'whole life costs'⁹. The approach also allows for contractors who have broken the law or committed grave misconduct on matters such as Health and Safety to be excluded from tendering. The joint Treasury/DETR note¹⁰ explains how departments can specify their requirement in-line with their environmental strategies. It is within this framework that environmental issues should be taken forward in public procurement.

What is Sustainable Construction

Sustainable construction is the set of processes by which a profitable and competitive industry delivers built assets (buildings, structures, supporting infrastructure and their immediate surroundings) which:

- enhance the quality of life and offer customer satisfaction
- offer flexibility and the potential to cater for user changes in the future
- provide and support desirable natural and social environments
- maximise the efficient use of resources

It is possible to set common 'sustainability' goals in the procurement of all built assets (buildings and infrastructure), since in many respects the issues that revolve around these are the same. It is recognised, however, that specific objectives within a framework of common goals, and a timetable by

4 A better quality life' DETR May 1999 (see www.construction.detr.gov.uk)

5 'Building a better quality of life' DETR, April 2000 (see www.construction.detr.gov.uk)

6 Report of the Construction Task Force, "Rethinking Construction," -DETR 1998, (see www.construction.detr.gov.uk)

7 "Revitalising health and safety"-, DETR/HSC July 1999 (HSE InfoLine, tel: 08701 545500)

8 Achieving Excellence' :GCCP, 1999 (see www.hm-treasury.gov.uk/gccp)

9 Procurement Guidance Note No.7 – Whole Life Costs. Treasury (to be published) (see www.hm-treasury.gov.uk/gccp)

10 Environmental Issues in Purchasing – Note by the Treasury and DETR - 1999 (see www.ogc.gov.uk)

Theme	What we do	
	By March 2001	By March 2002
Re-Use or New build	<ul style="list-style-type: none"> ● 70% of departments to use 'whole life cost' assessment as part of the technical appraisal for decision to build new or refurbish/re-use existing assets. ● 25% of departments to have criteria for evaluation of sustainability included in procurement procedures for construction projects 	<ul style="list-style-type: none"> ● 100% of departments to use 'whole life cost' assessment as part of technical appraisal for decision to build new or refurbish/re-use ex ● 70% of departments to have criteria for evaluation of sustainability in procurement procedures for construction projects
Design for Minimum Waste	<ul style="list-style-type: none"> ● <i>All departments to have plans in place to meet targets for waste in construction projects in line with the cross-Government targets agreed by Green Ministers</i> ● Include in the specifications for construction projects relevant performance requirements to minimise waste in construction and operation. 	<ul style="list-style-type: none"> ● 50% of departments measure performance of new projects and re of post project review against construction industry benchmarks w established.
Aim for Lean Construction	<ul style="list-style-type: none"> ● <i>Targets have already been set through 'Achieving Excellence'</i> 	
Minimise Energy in Construction and Use	<ul style="list-style-type: none"> ● <i>For all new construction projects to set targets for 'in use' energy consumption which meet at least current best practice for construction type. These targets Government bodies are already required to meet and which include reduction in energy consumption and increases in supply from renewable sources.</i> ● Include in the specifications for construction projects relevant performance requirements for energy during construction and in operation. 	<ul style="list-style-type: none"> ● 50% of departments to measure and report as part of post project performance of new projects against established energy consump benchmarks.
Do Not Pollute	<ul style="list-style-type: none"> ● 25% of departments include in the specifications for construction projects performance criteria for contractors in relation to pollution where relevant*. 	<ul style="list-style-type: none"> ● 70% of departments include in the specifications for construction performance criteria for contractors in relation to pollution where r
Preserved and Enhance Biodiversity	<ul style="list-style-type: none"> ● <i>Government bodies are already required to take due account of the UK Biodiversity Action Plan and the biodiversity action checklist for departments agreed</i> ● In planning new construction to take all reasonable measures to protect habitat and species. Report actions taken in post project reviews. 	
Conserve Water Resources	<ul style="list-style-type: none"> ● <i>Set targets for water consumption which meet at least current best practice for construction type and take account of any cross-Government targets agreed</i> ● Include in the specifications for construction projects performance requirements for water consumption during construction and in operation where relevant*. 	
Respect for People	<ul style="list-style-type: none"> ● 25% of departments to have procedures for construction procurement which include criteria for the evaluation of competence, resources and commitment of designers and contractors in relation to health and safety, training and engagement with local communities where relevant* ● All new projects carried out under the Considerate Contractors Scheme or similar. ● 30% of departments to monitor user satisfaction on each construction project following occupation. 	<ul style="list-style-type: none"> ● 50% of departments to have procedures for construction procurer include criteria for the evaluation of competence, resources and co of designers and contractors in relation to health and safety, training engagement with local communities where relevant*. ● 70% of departments to monitor user satisfaction on each construct following occupation
Set Targets	<ul style="list-style-type: none"> ● All departments to develop an individual implementation plan for each action point by September 2000. ● Check progress against implementation plan at six-month intervals and report as part of 'Achieving Excellence' updates (first review March 2001). ● All new projects to carry out environmental assessment using BREEAM or equivalent, 100% of projects to achieve 'good' or better rating. 	<ul style="list-style-type: none"> ● Review and up-date targets in implementation plans at six-month report as part of 'Achieving Excellence' updates ● All new projects to carry out environmental assessment using BRE equivalent, 100% of new-build projects to achieve at least 'very go (Refurbishment projects to achieve at least 'good' rating.)
	<ul style="list-style-type: none"> ● <i>Use existing and new Performance Indicators (for sustainability and respect for people as they are developed) to monitor progress and continuous improvem</i> 	

*Actions/Targets listed in Italics contribute to already established initiatives, eg. Achieving Excellence, Greening Government.
**Where relevant' means where relevant to the procurement in question.

Annex 1

By March 2003	
of the existing assets.	<ul style="list-style-type: none"> 100% of departments to use 'whole life cost' assessment as part of the technical appraisal for decision to build new or refurbish/re-use existing assets.
included	<ul style="list-style-type: none"> 100% of departments to have criteria for evaluation of sustainability included in procurement procedures for construction projects.
<i>that Government bodies are already required to meet, and have arrangements for monitoring in place*</i>	
report as part where	<ul style="list-style-type: none"> 100% of departments measure performance of new projects and report as part of post project review against construction industry benchmarks where established.
<i>should properly contribute to the cross-Government targets agreed by Green Ministers that</i>	
reviews tion	<ul style="list-style-type: none"> 100% of departments to measure and report as part of post project reviews, performance of new projects against established energy consumption benchmarks.
projects relevant.	<ul style="list-style-type: none"> 100% of departments include in the specifications for construction projects performance criteria for contractors in relation to pollution where relevant.
<i>by Green Ministers.</i>	
protect habitat	<ul style="list-style-type: none"> In planning new construction to take all reasonable measures to protect habitat and species. Report actions taken in post project reviews.
<i>by Green Ministers that Government bodies are already required to meet.</i>	
view marks where	<ul style="list-style-type: none"> 100% of departments measure and report as part of post project review performance of new projects against water consumption benchmarks where established.
ment which commitment g and	<ul style="list-style-type: none"> 100% of departments to have procedures for construction procurement which include criteria for the evaluation of competence, resources and commitment of designers and contractors in relation to health and safety, training and engagement with local communities where relevant*.
tion project	<ul style="list-style-type: none"> 100% of departments to monitor user satisfaction on each construction project following occupation.
intervals and	<ul style="list-style-type: none"> Review and up-date targets in implementation plans at six-month intervals and report as part of 'Achieving Excellence' updates.
BREEAM or 'good' rating.	<ul style="list-style-type: none"> All new projects to carry out environmental assessment using BREEAM or equivalent, 100% of new build projects to achieve 'excellent' rating. (Refurbishment projects to achieve at least 'very good' rating.)
ent.	



What this will achieve
By March 2003
<p>Over three years:</p> <ul style="list-style-type: none"> procurement in line with value for money principles on the basis of whole life costs less waste during construction and in operation; targets for energy and water consumption for new projects that meet at least current best practice for construction type and which contribute significantly to the achievement of cross-government targets agreed by Green Ministers; the protection of habitat and species taking due account of the UK Biodiversity Action Plan and the biodiversity action checklist for departments agreed by Green Ministers; targets developed in terms of 'respect for people' for procurement of the government estate; and contribute to the goals of less pollution, better environmental management and improved health and safety on construction sites; an increased number of new construction projects achieving 'excellent' under the BREEAM (or similar) assessment scheme. an increased number of refurbishment projects achieving at least 'very good' rating under the BREEAM or similar assessment scheme. a better working environment and increased productivity. increased engagement with local communities as part of the decision making process. improved industry performance against Egan targets.

which these can be delivered will differ from one organisation to another. This will depend upon the nature of the organisation's core business and other factors such as the funding available for new construction and refurbishment etc. and particularly on their current situation i.e. their starting point.

A detailed and comprehensive understanding of what makes construction sustainable will continuously evolve, but the principles below represent a robust view of current thinking which can be embraced without significant risk of future changes.

As with 'Achieving Excellence', construction procurement is taken to include new construction, refurbishment work and maintenance projects. However, sustainability in construction embraces not only procurement, but operation, and demolition of constructed works, and it is important that procurement is considered as a part of the complete cycle and within an overall framework which includes all relevant activities. This document is based on the results of consultations within the Action Group and an evaluation of what is already being done in departments and agencies represented by the Action Group members.

Themes for Action

To move and to measure progress in a sustainable direction, a framework and a set of goals, are needed. The strategy for more sustainable construction 'Building a better Quality of Life' includes 10 themes for action as a starting point. The framework used here is based upon these 10 themes.

Re-use existing built assets – *Consider the need for new build. Refurbishment/Re-use may work better. Think brownfield wherever possible for new construction.*

Assessing the case for refurbishment/re-use or new build should be based on a careful and objective technical appraisal (e.g. through a 'Whole Life Cost' ^{11,12} assessment') to evaluate the long-term potential of an existing asset against that of decision to build new.

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 performance requirements with care to encourage more efficient use of resources. Think about using recycled materials.*

Design is fundamental to sustainable construction. In this context it is more than a matter of converting client briefs for individual buildings or structures. Sustainability in design requires a broad, and long-term, view of the environmental, economic and social impacts of particular decisions. A particular priority is designing out waste, both from the construction process and during the useful life of the building or structure.

Waste does not imply just unwanted physical material. It includes unnecessary consumption of land, time, lower than planned economic return and unrealised potential from built assets during their lives. Minimising waste through design means avoiding over-specification of materials and services in favour of simplicity (buildability), bearing in mind operation and maintenance (maintainability), and considering flexibility and future re-use (adaptability), so as to minimise construction costs.

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

The actions and targets already set out in 'Achieving Excellence' point the way to achieving 'lean construction', these include better procedures and guidance for the supply chain,

11 Procurement Guidance Note No.7 – Whole Life Costs. Treasury (to be published) (see www.hm-treasury.gov.uk/gccp)

12 Introduction to Whole Life Costing - A Client's Guide. Construction Clients Forum, May 2000 (CCF, 1 Warwick Row, London SW1E 5ER)

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.*

Buildings consume large quantities of energy during their life-spans. The production of the energy used in the heating, cooling, ventilation and lighting of buildings account for about half the UK's emissions of carbon dioxide, an important greenhouse gas.

A significant proportion of all UK energy consumption is used in the production and transport of construction products and materials. Selecting where practicable materials whose production and distribution are less energy intensive will be of benefit. Both in new-build, and in the refurbishment of existing buildings, much can be done applying existing knowledge.

Technological solutions are available and proven, in the form of more energy-efficient buildings, building services and the two together. Basic design, covering, for example, location, orientation and the specification of the fabric, can make significant contributions to lower energy consumption. Passive environmental systems – drawing on natural light, natural air movement, thermal mass, temperature gradients and other phenomena – can deliver satisfactory performance while using much less energy than their mechanical equivalents. The scope for cost-effective use of on-site alternative energy sources, such as combined heat and power, district heating, thermal storage and heat pump applications, is increasing steadily. Guidance on better energy efficiency is available through best practice programmes¹³.

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. Specify adoption of the Considerate Constructors Scheme¹⁴ or similar.*

The four major potential sources of pollution from the construction process are waste materials, emissions from vehicles, noise and releases to water, ground and atmosphere. 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. Environmental Management Systems can play an important role in achieving continuous improvement. Schemes such as the Considerate Constructors Scheme encourage the use of good construction site practices.

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.*

Construction has direct and obvious impacts on the biological environment, and has the opportunity to do a great deal, not only to mitigate negative impacts but also to protect and enhance biodiversity and to secure a sustainable environment. These opportunities and the value derived from them will be enhanced if attention is paid to biodiversity at the design stage of development rather than treating it as an ‘end of pipe’ issue.

¹³ Energy Efficiency Best Practice Programme: (<http://www.energy-efficiency.gov.uk/>)

¹⁴ Considerate Constructors Scheme: Contact the Construction Confederation (see www.ciboard.org.uk)

¹⁵ <http://www.databases.detr.gov.uk/water.index.htm>

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

Pressure on water resources is likely to increase, and there is considerable potential for increased water efficiency in the building stock. The main gains for more sustainable construction will come from incorporation of more water-efficient building services. This can be as simple as specifying low flow showers, sprinkler taps and dual flush WCs, or include more comprehensive solutions such as greywater recovery, rainwater recovery, and drainage control.

Water audits of existing buildings will show where savings in water use can be made when refurbishing existing buildings.

Innovative technologies and research on water conservation can be found on the DETR/ Environment Agency Water Conservation Research Database¹⁵.

Respect people and their local environment – *Be responsive to the community in planning and undertaking construction. Consider all those who have an interest in the project (employees, the local community, contractors).*

Respect for people is at the heart of the social responsibility dimension of sustainable construction. A culture that emphasises respect for people will impact on recruitment and retention, equality of opportunity, health, safety and welfare and neighbourliness. Indicators to measure and monitor respect for people are being developed.

Set targets – *Measure and compare your performance with others. Set targets for continuous improvement. Develop appropriate management systems*

The effectiveness of target setting as a tool is increased if the targets are embedded in a corporate sustainable development policy. A policy statement makes clear the department's, agency's or NDPB's commitment and should be backed by open and public reporting of achievement and progress.

The principles of environmental management systems (EMS) are intended to control the environmental consequences of an organisation's activity. Government is already committed to all departments having "begun introducing an EMS by the end of the Parliament with a view to extending them across their estates" (where that would be efficient and cost effective).

Implementation

Implementation will be at two levels:

1. At the first level, a collective one, the GCCP has agreed actions and set targets, as a group. The actions and a timetable with 'milestone targets' are presented in Annex 1 and are based upon the 10 themes given above.
2. At the second level, departments, agencies and NDPBs, should individually assess their current situation, and develop their own specific plans including setting or refining targets.

¹⁵ <http://www.databases.detr.gov.uk/water.index.htm>

Many of these actions and target will support already established cross government initiatives such as 'Achieving Excellence', the 'Greening Government Initiative', supply chain initiatives brought about by CDM¹⁶ and initiatives, such as 'Working Well Together'¹⁷.

Over three years this implementation should result in:

- procurement in line with value for money principles on the basis of whole life costs
- less waste during construction and in operation;
- targets for energy and water consumption for new projects that meet at least current best practice for construction type and which contribute significantly to the achievement of cross-government targets agreed by Green Ministers;
- the protection of habitat and species taking due account of the UK Biodiversity Action Plan and the biodiversity action checklist for departments agreed by Green Ministers;
- targets developed in terms of 'respect for people' for procurement of the government estate; and
- a contribution to the goals of less pollution, better environmental management, and improved health and safety on construction sites.

¹⁶ The Construction (Design and Management) Regulations 1994 (see www.hse.gov.uk/pubns/cis4l.htm)

¹⁷ <http://www.wwt.uk.com>

Suggested Further Reading

1. **A Guide to Managing Health and Safety in Construction.** Health and Safety Executive. ISBN 0717607550.
2. **BREEAM 98 for Offices;** BRE (BR350), 1998.
3. **Clients Guide to Greener Construction:** CIRIA Special Publication 120, 1995.
4. **Energy use in Offices:** DETR/Energy Efficiency Best Practice Programme, Energy Consumption Guide 19, 1998.
5. **Environmental code of practice for buildings and their services 2nd Edition,** BSRIA, 1999.
6. **Environmental handbooks for building and civil engineering projects** – (in three parts) CIRIA, 2000.
7. **Environmental Issues in Purchasing** – Note by the Treasury and DETR – 1999.
8. **Greening Government:** First Annual Report of the Green Ministers Committee, 1998/99 (DETR, 1999).
9. **Implementing Environmental Management Systems in Government** – Guidance for environmental managers and other key people. DETR, 1998.
10. **Towards more Sustainable Construction:** Green guide for managers on the government Estate: DETR/Greening Government Team, 1999