

# PFI: meeting the sustainability challenge



“green alliance...”

## PFI: Meeting the sustainability challenge

by Julie Hill and Joanna Collins

Published by Green Alliance, July 2004, £20

Design and Print by Calverts – [www.calverts.coop](http://www.calverts.coop)

ISBN 0 9543813 6 X

© Copyright Green Alliance 2004

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior permission in writing of Green Alliance. Within the UK, exceptions are allowed in respect of any fair dealing for the purposes of private research or study, or criticism or review, as permitted under the Copyright, Design and Patents Act, 1988, or in the case of reprographic reproduction in accordance with the terms of the licences issued by the Copyright Licensing Agency.

This book is sold subject to condition that it shall not, by way of trade or otherwise, be lent, resold, hired out or otherwise circulated without the publisher's prior consent in any form of binding or cover other than that in which it was published and without a similar condition including the condition being imposed on subsequent purchaser.

Front cover image (2nd from right) © Learning Through Landscapes [www.ltl.org.uk](http://www.ltl.org.uk)

Green Alliance  
40 Buckingham Palace Road, London SW1W 0RE  
tel: 020 7233 7433 fax: 020 7233 9033  
email: [ga@green-alliance.org.uk](mailto:ga@green-alliance.org.uk)  
website: [www.green-alliance.org.uk](http://www.green-alliance.org.uk)

Green Alliance is a registered charity number 1045395.  
Company Limited by guarantee, registered number 303763

## acknowledgements

We would like to thank AWG plc for supporting the project. Thanks are also due to the project Steering Group, all those who agreed to be interviewed, and colleagues at Green Alliance. Jennie Oldham, now of ERM, contributed valuable research early in the project.

### Steering Group

Jiggy Lloyd, AWG

Bronwen Jones, DEFRA

Chris Elliot, Barclays Capital

Victoria Robb, Conrad Smewing, Amelia Newton, HM Treasury

Stephanie Draper, Forum for the Future

Warren Hatter, New Local Government Network

This report represents the views of Green Alliance, not necessarily of the Steering Group

### Green Alliance

Green Alliance is one of the UK's foremost environmental groups. An independent charity, its mission is to promote sustainable development by ensuring that the environment is at the heart of decision-making. It works with senior people in government, parliament, business and the environmental movement to encourage new ideas, dialogue and constructive solutions.

## contents

|   |    |
|---|----|
| Executive Summary .....   | 3  |
| chapter I – introduction .....  | 5  |
| why this project? .....   | 5  |
| our approach .....  | 5  |
| PFI in context .....  | 5  |
| the PFI process and ‘greening’ .....  | 6  |
| chapter II – what role for PFI in sustainable development? .....              | 8  |
| public procurement as ‘leverage capital’ .....                                | 8  |
| public procurement to further wider public policy priorities .....            | 9  |
| public procurement to drive innovation .....                                  | 11 |
| progress to date .....  | 11 |
| PFI offers special opportunities for sustainability .....                     | 12 |
| chapter III – key findings .....  | 13 |
| there are signs of progress .....   | 13 |
| but overall, sustainability considerations are not sufficiently .....         | 13 |
| embedded in the process to ensure consistent delivery                         |    |
| ‘value for money’ is not consistently being interpreted .....                 | 14 |
| as optimum quality rather than least cost                                     |    |
| affordability undermines a sustainable interpretation of ‘value for money’ .. | 14 |
| there are important constraints on the concept of Whole Life Costing .....    | 15 |
| output specifications and bid evaluation do not always match up .....         | 16 |
| too much depends on client awareness and expertise .....                      | 17 |
| efforts to improve design quality do not fully .....                          | 17 |
| cater for sustainability considerations                                       |    |
| PFI is not reliably delivering innovation for sustainability .....            | 18 |
| central government evaluation is not visibly driving sustainability .....     | 19 |
| box a: the NAO approach to environmental and sustainability .....             | 20 |
| issues in PFI projects  |    |
| chapter IV – recommendations .....  | 21 |
| HM Treasury guidance .....  | 21 |
| box b: quantification of sustainability in bid evaluation .....               | 22 |
| the role of departmental Private Finance Units .....                          | 23 |
| and the Project Review Group  |    |
| standards and targets .....   | 23 |
| approvals .....   | 24 |
| guidance to clients .....   | 25 |
| the roles of the NAO, PAC and OGC Gateway Reviews .....                       | 26 |
| the role of contractors .....   | 27 |
| in conclusion .....   | 27 |
| annex I – list of interviewees .....  | 28 |
| annex II – illustrative matrix of sustainability goals, .....                 | 30 |
| output specifications and cost measures                                       |    |
| annex III – simplified and illustrative PFI procedure .....                   | 33 |
| with Green Alliance recommendations   |    |
| bibliography .....  | 34 |
| online resources .....  | 35 |
| notes .....   | 36 |

## executive summary

The Private Finance Initiative (PFI) can and should be used as a lever to transform the construction sector in the UK towards greater sustainability of its products and practices. All public procurement should be made consistent with Government policies for delivering sustainable development, most notably in terms of carbon reduction, waste minimisation, water efficiency, community regeneration and social inclusion. However, PFI has a key role to play within procurement due to the scale of investment involved; the greater ease of influencing the small number of actors involved; and the way in which PFI contracts secure the long-term engagement of contractors.

PFI has become a significant pillar of government procurement, and represents a major proportion of investment in new public buildings. All secondary schools in England will be rebuilt or renovated over the next ten to fifteen years, at least half via the PFI route, with an annual investment of £2bn over that period. Given the scale of the proposed programmes, we have focused our research on PFI procurement of schools and hospitals, but our recommendations on policy and process will have broader application to other PFI infrastructure projects, such as waste management and transport.

Sustainability considerations are not sufficiently embedded in the PFI process to ensure consistent delivery, and success is highly reliant on the motivation and expertise of individual public sector clients and private contractors. Although, in theory, clients are now encouraged to seek value for money in PFI procurement, this is still more often interpreted as least cost rather than optimum quality. Contractors perceive that clients do not generally reward sustainability features in choosing their preferred bidder, even where they have asked for such features in their output specifications. Bidding for a PFI contract involves high cost and risk for contractors, so they are unlikely to propose innovative designs without confidence of reward. Crucially, central government evaluation of PFI projects is not yet correcting these tendencies by penalising least cost, poor quality procurement choices by clients.

“ contractors perceive that clients do not generally reward sustainability features”

Based on the insights of senior players in the PFI process, including policy-makers, financiers, advisers, clients and contractors, Green Alliance has developed recommendations for ensuring that PFI projects meet appropriately high social and environmental standards. These recommendations have been scrutinised by a range of PFI experts, and are primarily addressed to actors concerned with PFI policy and approvals, namely HM Treasury and the Private Finance Units of government departments, and those charged with evaluating the process, including the Office of Government Commerce (OGC), National Audit Office (NAO) and the Public Accounts Committee (PAC).

“ the Government currently relies too heavily on the influence of guidance”

This report is not designed to add to the plethora of advisory documents for clients. The Government currently relies too heavily on the influence of guidance, the key example being *Green PPP – a guidance note on how to incorporate environmental considerations within PPPs and PFI projects*. This report reveals that such guidance has very low profile, and even lower impact, in the absence of clear standards and an incentive framework that will permit clients to give due weight to sustainability. It is this policy and evaluation framework that our recommendations are intended to inform, in particular the forthcoming revision of the Treasury’s guidance on bid evaluation for clients.

## chapter I – introduction

### why this project?

- 1.1 This report explains how the Private Finance Initiative (PFI) can better reflect public policy priorities on the environment, and can be used as an exemplar and lever to help green public procurement across the board.
- 1.2 It has been written because of a perceived gap between the theory and practice of how PFI is taking on board sustainability considerations and translating them into ground-breaking infrastructure projects. PFI has clear potential to be an environmentally and socially progressive form of public procurement, but in our view this potential is not yet being fulfilled.

### our approach

- 1.3 This project has surveyed key players in the PFI process for their perceptions of how well sustainability considerations are embedded at all stages of the process – from deciding whether to pursue the PFI route through to delivery and whole-life operation of the projects. We have interviewed 26 people from central government departments, local government, the procurement profession, PFI consortia, as well as advisers and funders (see list at Annex I). Unattributed quotations from those interviews are used at intervals in the report to illustrate the range of viewpoints we encountered. We have had a steering group comprising a cross-section of senior people from these fields, and we have conducted a seminar to test emerging findings. We have not sought to survey comprehensively the actual sustainability performance of individual PFI projects – that is beyond the scope of this work – although we have had access to a number of examples on the ground.
- 1.4 This research has been supported by AWG plc. AWG owns Anglian Water and Morrison plc. Through its Project Investments business, Morrison plc manages and maintains public infrastructure in the UK.

### PFI in context

- 1.5 PFI is one of a number of initiatives designed to mobilise private sector money and expertise in the delivery of public services. These initiatives are covered by the broad heading of PPP: Public Private Partnerships. Although HM Treasury stresses that PFI accounts for only 10-15 per cent of public sector net investment (PSNI) since 1997, the level of that investment has risen significantly, and PFI has expanded in proportion – from nine projects signed during 1995 to

“ all secondary schools in England will be rebuilt or renovated over the next ten to fifteen years, at least half via the PFI route”

65 projects signed during 2002 with a total value of £7.6bn. PFI thus represents a significant level of spending, particularly as a proportion of new build procurement, and one that is set to continue. For instance, all secondary schools in England will be rebuilt or renovated over the next ten to fifteen years, at least half via the PFI route, with an annual investment of £2bn over that period. According to the Treasury, PFI has already delivered 600 new operational public facilities<sup>1</sup>. Schools and hospitals have been the main beneficiaries, followed by transport projects, fire and police stations, prisons, and waste and water projects.

- 1.6 The idea behind PFI is that the private sector is incentivised to provide efficient public services by relying on private capital at risk. The Government states that it only uses PFI where appropriate, and where it can deliver ‘value for money’ benefits. This means major and complex capital projects with on-going maintenance requirements, where the PFI contract structure provides incentives to deliver buildings on time and to budget, and to keep them well maintained over 25 to 30 year contracts. This should ensure that the ‘whole-life’ costs of maintaining the asset are taken into account in design and construction.
- 1.7 The assessment of ‘value for money’ has evolved as PFI has matured. Judgement on whether the PFI route or conventional ‘design and build’ is more appropriate has been based on a Public Sector Comparator (PSC) – a complex model to calculate what the project would have cost without private involvement, based on past practice. These models have been widely criticised for their inaccuracies, in particular by the National Audit Office (NAO), and the role of the PSC has recently been reformed by the Treasury. As this report demonstrates, the treatment of ‘value for money’ is a key consideration in the successful embedding of sustainability considerations.

*‘PFI tends to be seen as the only game in town as far as capital investment is concerned’*

*‘The process [for choosing the method of procurement] must be one such that there is no inherent bias in favour of one option over the other.’ (Meeting the Investment Challenge, HM Treasury 2003)*

## the PFI process and ‘greening’

- 1.8 Many PFI projects are procured through Local Authorities, including schools, waste contracts, and roads. Others are procured directly by central government departments, for instance Defence, the Home Office (through the Prison Service), and Transport (through the Highways Agency). Health procurement has an infrastructure of its own, involving the DOH, Strategic Health Authorities, NHS Trusts

and Primary Care Trusts. This means that the mechanisms for allocating money, driving guidance and monitoring outcomes vary with the sector involved.

- 1.9 In 2002 the Office of the Deputy Prime Minister (ODPM), together with the Office of Government Commerce (OGC), Department for Transport (DfT) and Department of Environment, Food and Rural Affairs (Defra) published *Green PPP – a guidance note on how to incorporate environmental considerations within PPPs and PFI projects*. The guidance was addressed to ‘anyone developing or managing a public private partnership’, but following it was not made a formal requirement of any part of the process. In 2003, responsibility for PFI was moved from the Office of Government Commerce to the Treasury. The existence of this guidance, and a desire to understand how far it was achieving the greening of PFI, prompted Green Alliance to undertake this project.

## chapter II – what role for PFI in sustainable development?

### public procurement as ‘leverage capital’

“ transport, food and materials procurement choices by NHS Estates will have direct or indirect impacts on public health”

2.1 Throughout Europe public sector expenditure consistently accounts for 38-43 per cent of GDP. In the UK, NHS spending alone makes up seven per cent of GDP, and this rises to ten per cent in the London region. This gives the Department of Health leverage over the social and environmental impacts of a significant proportion of the

economy. This ‘leverage capital’ could be used to transform markets in favour of systems and products that are more conducive to a healthy population as well as furthering the aims of sustainable development. For instance, transport, food and materials procurement choices by NHS Estates are not just environmental concerns – they will have direct or indirect impacts on public health. In view of growing concern over the rise in chronic health problems such as asthma and obesity, the Government has recently published a draft Public Health White Paper for consultation. Embedding sustainability goals in the procurement of new health facilities should be central to this.

- Hospital design: natural light and ventilation, tree views and access to outdoor green space have all been shown to have demonstrable benefits for patient recovery.
- Catering: provision of healthy, fresh food in hospitals is key to patient recovery and to influencing the public to adopt a more nutritious everyday diet. Procurement of local food would reduce food freight, which is the largest component of polluting road transport, a source of chronic health risks such as asthma.
- Hospital location: locating new hospitals on green-field sites on the edge of towns may be cheaper and logistically less complex than re-using old brown-field sites near the town centre, but makes access for those without private cars more difficult. New hospitals should be designed to generate as little new traffic as possible, because local air quality, pedestrian safety and climate change are all important issues for public health.

2.2 Similarly, in the field of education, schools procurement by the Department for Education and Skills (DfES) and local education authorities is pertinent to the delivery of many wider education agendas:

- **Learning by demonstration:** the Department for Education and Skills has developed a Sustainable Development Action Plan, in recognition of the importance of educating the young about the sustainability challenges that will face upcoming generations. Citizenship and science are also central tenets of the Government's approach to curriculum development. All these subjects are relevant to the design of twenty-first century schools, in that children can learn more effectively about science, technology and environmental solutions by demonstration than by rote.
- **Lifelong learning:** education is not just about children and the national curriculum. Schools should be designed and managed to have provision for adult learning classes outside of school hours.
- **Access to schools:** the school run is a key contributor to traffic congestion, and the pollution generated by these inefficient short journeys impacts disproportionately on the health of children. Transport to school by private car also denies children the opportunity for exercise and socialising, which are a crucial part of a rounded education. Locating schools for easy access, and providing safe routes to school by walking, cycling and public transport, are therefore important goals.
- **Nutrition:** catering in schools is responsible for delivering child nutrition, but also for demonstrating to children what constitutes a healthy, balanced diet. A recent report by the Soil Association was critical of the processed nature of much of the food served in UK schools today<sup>ii</sup>. The capacity to prepare fresh, healthy food in schools will be influenced by the catering facilities and catering staff training objectives designed into schools contracts.

## public procurement to further wider public policy priorities

2.3 Procurement of public buildings, such as hospitals and schools, should also apply this leverage effect to promote wider public policy priorities. An updated, UK-wide Sustainable Development Strategy is currently being developed in consultation with business and other stakeholders. The four priority areas proposed for action are climate change and energy; sustainable consumption, production and use of natural resources; environmental and social justice; and helping communities to help themselves. All these goals are of direct relevance to the provision of new buildings for delivering public services.

“ procurement of public buildings, such as hospitals and schools, should also apply this leverage effect to promote wider public policy priorities”

- **Climate change:** the 2003 Energy White Paper set a target of 60 per cent carbon reduction for the UK by 2050. Given the poor energy efficiency of existing building stock, and the very long lives of many public buildings, the contribution of new build towards this target will have to be commensurately greater. A large proportion of the carbon footprint of new buildings is a result of the carbon resulting from extraction, transport and manufacture of materials, so this agenda should be as concerned with improving supply chain management as with reducing building energy use. Road transport is still a growing contributor to carbon emissions, and traffic generation by new services should be minimised.
- **Social exclusion:** the Prime Minister set up a Social Exclusion Unit in 1997 to produce 'joined-up solutions to joined-up problems' such as unemployment, poor skills, bad health and high-crime environments. Procurement of new public buildings and service delivery can contribute a range of solutions to social exclusion: from facilities for life-long learning to recruitment of local labour in construction, catering or facilities management.
- **Access to services:** the elderly, the socially excluded and the young are the groups most in need of public services, but these groups also tend to be less mobile and have reduced access to private transport. Decisions to locate public services in cheaper, out-of-town sites with poor public transport provision can be a major barrier to social inclusion and neighbourhood renewal. Deprived communities can also suffer disproportionately from the effects of road transport, such as pollution and pedestrian accidents.
- **Waste and resources:** the Landfill Directive targets aim to reduce landfill of biodegradable waste by 25 per cent by 2010, 50 per cent by 2013 and 65 per cent by 2020. These targets are partly driven by climate policy and the need to reduce methane emissions from landfill, but also reflect a general desire to move from landfill to waste management options further up the waste hierarchy, including recycling. The debate is already shifting from waste disposal to resource use, giving the government opportunities to join up waste prevention policies with broader product policies in pursuit of sustainable consumption and production, as outlined in the SCP strategy of 2003<sup>iii</sup>. Public procurement has a major part to play in addressing resource use through specification of materials.

“ decisions to locate public services in cheaper, out-of-town sites with poor public transport provision can be a major barrier to social inclusion”

## public procurement to drive innovation

- 2.4 Public procurement can also play a key role in driving innovation in environmental technologies, by bridging the problematic gap between demonstration projects and market commercialisation. A commitment by the Government to procure environmental technologies on a significant scale for new public buildings would help unblock investment and hence the innovation chain. Such a commitment would be on the condition that the technologies in question prove their performance in demonstration pilots. Flagship public buildings are appropriate sites for the Government to demonstrate its commitment to innovation, and for contractors to push first mover advantage by showcasing their capabilities.

## progress to date

- 2.5 The Government is beginning to acknowledge its responsibility to use procurement as a lever for more sustainable development. Following recommendations from the inter-departmental Sustainable Procurement Group (SPG), Defra and the Office of Government Commerce (OGC) announced in November 2003 that all new central government department contracts must apply minimum environmental standards when purchasing certain types of product. 'Quick wins' were identified by the SPG as routes to meeting these standards, and the Defra/OGC *Joint Note on Environmental Issues in Purchasing* has been revised accordingly. However, these measures do not have clear application to contracts covering major public building projects, including PFI.

“ the Government is beginning to acknowledge its responsibility to use procurement as a lever for more sustainable development.”

- 2.6 The Framework for Sustainable Development on the Government Estate, managed by Defra, has negotiated targets for environmental performance across all departments, including a ten per cent reduction in road transport emissions by 2006. However, the Framework has not yet been seen to have clear application to PFI projects. Sections on estates management and construction, and procurement, are yet to be published. The Framework should be given a clear mandate by HM Treasury to negotiate targets with application to PFI contracts. However, these should be set within the framework of the forthcoming Code for Sustainable Building (CSB), as recommended by the Sustainable Building Task Group, and accepted by Government.
- 2.7 The CSB is intended to be a single, coherent and consistent framework for industry, clients and the public sector to construct buildings with higher levels of environmental performance than those stipulated by regulation. This is to be based on the Building

Research Establishment's BREEAM Methodology but should incorporate clearly-specified minimum standards in key resource efficiency criteria (energy and water efficiency, waste and use of materials). It is imperative that the Government also accept the Group's recommendation to apply the CSB to all publicly-procured buildings, including PFI.

*'We welcome the common minimum standards for public sector procurement currently being developed by the Government. The Group recommends that the public sector continues to lead the way by using the Code for Sustainable Buildings on all its building projects. Public procurement across the board should be to high standards within the CSB.'* (Sustainable Buildings Task Group report, 2004)

## PFI offers special opportunities for sustainability

2.8 The main opportunity inherent in PFI procurement comes from the fact that PFI contracts are typically for 25-30 year periods, and embrace the design, construction, maintenance and operation of the infrastructure. Given that capital costs are on average only 5.5 per cent the lifetime value of a built asset, this gives contractors, in theory, an incentive to design using operational efficiencies at every stage. Contractors have control over materials used, energy strategies, water provision and a host of other aspects of service provision.

2.9 In addition there is a strong 'programme effect': contractors may be bidding into several projects, so there is potential for increasingly sophisticated bids. Sponsoring departments and local authorities can signal their expectations on sustainability performance across a whole programme, increasing the incentive for contractors to invest in appropriate supply-chain management and research and development to gain market share. PFI is also a well-defined market – in some sectors, there are relatively few key players in terms of contractors and funders, so penetration of guidance and spread of successful ideas should in theory be easier than usual.

*'Creation of long-term sustainable markets, as in the Building Schools for the Future programme, enables contractors to look beyond the individual deal. One-deal paybacks are often insufficient to justify the risk of investing in innovative solutions.'*

*'PFI allows contractors to take a different view on sustainability aspects – longer payback periods are possible because you can trade off higher capital costs against lower operating costs.'*

**“ capital costs are on average only 5.5 per cent the lifetime value of a built asset”**

## chapter III – key findings

### there are signs of progress

- 3.1 In the course of the research we have come across examples of strategies and practices that are resulting in more sustainable PFI projects now, and are likely to do so in future. These include:
- A clear acknowledgement in the health sector that a number of sustainability features are also important drivers of patient recovery – increasing use of natural ventilation and light in hospitals, maintaining biodiversity around the site and access to green areas.
  - The ‘exemplar designs’ developed for Building Schools for the Future, which have some emphasis on sustainability. As a consequence of the exemplar designs, the DfES has increased the allowed cost per pupil to give flexibility in terms of innovation and design.
  - The renewed emphasis by the Treasury on ‘Value for Money’, as a measure of quality as well as of cost, and the idea that good design is a crucial element of quality.
  - Practical environmental assessment tools such as the NHS Environmental Assessment Tool (NEAT) and the Schools Environmental Assessment Method (SEAM) which help clients to understand and quantify a range of sustainability factors in planning their projects.

*‘The PFI programme brings increased rigour and scrutiny to investment, and brings whole-life costing. As a result, it drives institutional change in departments, which can flow over into conventional procurement.’*

*‘PFI does offer good opportunities to address sustainability, because it forces consideration of the lifecycle. As such, it is an opportunity to get it either very right or very wrong’*

### but overall, sustainability considerations are not sufficiently embedded in the process to ensure consistent delivery

- 3.2 Successful delivery is highly reliant on the interest and motivation of clients and/or contractors, because it is not being consistently stipulated or rewarded at central government level. Departments and HM Treasury say they want sustainability considerations factored in, but it is not clear that this has yet created scope for higher value bids as a result. An important signal of the inconsistent attention to sustainability issues was that many key players were completely

“ many key players were completely unaware of the ‘Green PPP’ guidance”

unaware of the ‘Green PPP’ guidance. No-one is formally required to have adhered to it or to have taken it into account. There has, as yet, been no scrutiny of its uptake or the consequences of its being used by the Public Accounts Committee or the National Audit Office. The OGC’s Gateway Review Process is now questioning project teams in central government departments on how far they have read, understood and are implementing the guidance, but these reviews are not in the public domain unless project teams choose to release them.

*‘Only anecdotal evidence currently exists on whether sustainability is being delivered by HM Treasury guidance.’*

*‘There is superb guidance – the Gateway process is about getting it used more often.’*

‘value for money’ is not consistently being interpreted as optimum quality rather than least cost

3.3 This broader interpretation was the Treasury’s intention, and new guidance has recently reiterated the point.<sup>iv</sup> However, the guidance doesn’t indicate just how quality should be weighed against costs at either programme or project level, and specifically in bid evaluation. Nor does it give examples of what kind of innovations and practices the ‘quality’ goal should be used to promote. Many interviewees felt that it is still least-cost bids that win, so sustainability features that add to costs, if proposed by only one contractor, could lose them a competitive edge.

*‘Our experience is that invariably lowest cost wins. Quality criteria only come in to play if there is less than 2% price difference between bids.’*

*‘Contractors have a fear, grounded in experience, of investing in good solutions and losing bids to a least-cost competitor.’*

affordability undermines a sustainable interpretation of ‘value for money’

3.4 If sustainability features aren’t diluted when a least-cost bid is chosen, they may well be further on in the process when the client and contractor enter affordability negotiations, which try to bring the project within an allowed budget. Given that most projects prove to have been subject to ‘optimism bias’ (i.e. the tendency to underestimate costs) and may increase in cost even before the contract is signed, this negotiation stage is where any add-ons that are not considered necessary may disappear. Bankers, without experience in Whole Life Costing, take over. During affordability negotiations, considerations of ‘value for money’ in terms of quality can become less relevant.

## there are important constraints on the concept of Whole Life Costing

3.5 The theory of Whole Life Costing (WLC) is that operating costs are given due weight in a trade-off against capital cost in the 'unitary charge' paid by the client. This should drive efficiencies in resource use of all kinds, including lower energy and water use, more durable and recyclable materials and waste minimisation. It should also mean that higher capital investment can be justified in order to gain these operating efficiencies. However, the potential of WLC is undermined in practice because:

- PFI relies on finance at risk, and since no-one is paid until the facility is up and running, funders carry a large amount of 'completion risk'. Sustainable construction methods that are new to the contractor may be seen to add to this completion risk and push up the cost of capital accordingly. Given that contractors receive no income during the build phase they will also attach a higher risk factor to novel build requirements. Any savings on operating costs from sustainable design will thus have to be proportionately higher to justify the increased capital costs, and associated risks, which the contractor will try to keep as low as possible.
- Although PFI contracts for operation of facilities give the contractor responsibility for keeping energy use within agreed boundaries, energy bills in some sectors are paid by the client, and so energy price risk is carried by the client. This is because the NHS, for instance, is such a large purchaser of power that it can command preferential terms in the energy market, and it is not worth having the contractor purchase energy. Thus the only incentive for a consortium to propose significant capital expenditure on energy efficiency technologies or renewables is to gain competitive advantage in a bid, generally where the client has signalled a wish to go down that road. However, if the client is perceived to be prioritising affordability, higher capital expenditures are unlikely to be proposed, or may be taken out during affordability discussions.
- To develop properly, the methodology of WLC needs to benefit from feedback on how predicted costs work out in practice. Partnerships for Schools, for instance, is investing £1m on gathering evidence on the links between building standards and educational standards, and this investigation could include data to understand the strengths and weaknesses of WLC. Not all PFI procuring organisations are going about gathering experience in a systematic way.

“ energy bills in some sectors are paid by the client”

'The models for Whole Life Costing are not difficult – but having the right information is.'

'Whole life costing works for us because the company has control through all the stages of service delivery, which is not always the case. The perception that sustainability costs more may be due to not properly trading off capital and operating costs, and giving proper consideration to risk.'

'It becomes difficult where measures put the capital costs up high, also increasing financing costs, to the extent that these cancel out long-term benefits. But there are still opportunities during the operations phase to implement sustainability measures, when income is fixed, and contractors can make their own trade-offs between capital costs and running costs.'

'Solar PV always appeals but is written off due to expense.'

## output specifications and bid evaluation do not always match up

“ the high cost of making a bid reinforces a cautious approach”

3.6 Interviewees were virtually unanimous that output specification and bid evaluation are the most important stages of the process in terms of giving life to sustainability aspirations. The two have to reinforce each other. Clients may create output specifications that appear to favour or require sustainability features, but bidders will only respond if they believe that the client will assign these factors weight in the bid evaluation, relative to costs, layout or appearance of the facility. Often the methodology for bid evaluation is not transparent, so bidders will refer to past projects to assess whether sustainability will be rewarded, in the knowledge that the majority of clients use the same pool of advisers. The high cost of making a bid – in the region of £1 million for a bidder that reaches final stage for a construction project, and as high as £2-3m for some waste contracts – reinforces a cautious approach.

3.7 It is important that output specification and subsequent bid evaluation strike a balance between clarity on required outcomes and flexibility on approaches. Input specification (i.e. specifying particular solutions such as CHP) could help overcome bid risk for contractors, but might also constrain the potential for bidders to propose cost-effective, integrated solutions of their own in response to competition. This tension suggests that it may be better to turn certain objectives into mandatory outcome-based requirements (for instance on carbon emissions) so that all competitors know what the standard is, but can still design different approaches to meeting it. Input specification has become a norm in relation to fire safety and disabled access in new public buildings, so its limited application to key targets such as renewable energy generation should be considered.

'The biggest problem is that the client doesn't understand how to translate sustainability ideas into actual outputs. Clients rarely incorporate sustainability targets in their adjudication criteria.'

'In the experience of our members, public sector building contracts invariably choose the lowest capital cost, least energy efficient, most polluting option for equipment such as boilers and ventilation equipment. Because PFI contractors will not take on responsibility for the energy use of a building they therefore have no incentive to look at the whole-life energy costs of equipment installed.' (Merlin Hyman, Environmental Industries Commission)

## too much depends on client awareness and expertise

- 3.8 Many people in charge of projects to build schools or hospitals or manage waste projects are first-time procurers – 'PFI virgins'. It is a lot to expect them to deal with sustainability in a sophisticated way as well as to conform to the plethora of rules and guidance around the PFI process. Initiatives such as the NHS environmental assessment tool (NEAT) are helping to raise awareness and embed higher environmental standards, but too few of NEAT's aspirations are actually required standards. Recent research cited by the Environmental Industries Commission has highlighted the lack of a consistent approach to energy efficiency by LEAs and PFI contractors.<sup>v</sup>

It is clear from the interviews that flagship projects result from exceptionally high awareness and ambition. A key example is the Herefordshire procurement of Whitecross school, where design considerations, including sustainability, were awarded a visible 50 per cent of the scores in evaluation of the bids. This is not the norm.

**"flagship projects result from exceptionally high awareness and ambition"**

*'The PFI process demands enhanced skills, in particular for assessment of Whole Life Costing and being able to foresee long-terms demands on a building'.*

*'The amount of money involved in PFI contracts is very big and the people negotiating them feel exposed – they don't automatically feel that they can approach a host of organisations for advice'.*

## efforts to improve design quality do not fully cater for sustainability considerations

- 3.9 There has been significant effort to improve design quality in PFI projects. The Commission on Architecture and the Built Environment (CABE), set up by Government with a mandate from the Prime Minister to 'demonstrate the ability of great architecture and design to transform people's quality of life' has played a leading role. CABE provides 'enablers' to work alongside project teams on selected projects, and the Commission has also contributed to the development of 'exemplar designs' for new schools.
- 3.10 Sustainability was often cited by interviewees as being covered by concepts of 'good design', and this is stated categorically in the OGC's recent design quality guide<sup>vi</sup>. There is indeed significant overlap between the objectives of quality design and sustainability.

## “ there is a major opportunity to improve the fit between good design and sustainability in the development of Design Quality Indicators”

Institutions and guidance to deliver the design agenda are well developed and should therefore be harnessed to ensure that design is not judged to be ‘quality’ without due attention to sustainability. However, sustainable design is necessary, but not sufficient, for delivery of sustainability. The environmental and social impacts of buildings are affected by their location, and by their procurement of goods and labour, as well as their design.

- 3.11 Even the exemplar designs are limited in their interpretation of sustainability. For instance they promote energy efficiency but rarely mention water efficiency. Materials considerations are often limited to the sourcing of timber, without fully exploring the potential for recycled or recyclable materials, or more durable materials. Renewable sources of energy hardly feature.
- 3.12 The exemplar designs are described by David Milliband as ‘springboards’ rather than ‘templates’, and as such can be further developed to meet local needs and aspirations<sup>vii</sup>. However, as noted above, how far these aspirations push the envelope of sustainability opportunities will depend on the expertise and enthusiasm of the client. CABE support also targets the enthusiastic clients: their criteria for working on projects specifies ‘a strong client who recognises the role that design can play in delivering a better project and who will respond constructively to the advice of CABE’s staff’<sup>viii</sup>
- 3.13 However, there is a major opportunity to improve the fit between good design and sustainability in the development of Design Quality Indicators (DQIs), being developed by the DfES as a follow-up to the exemplar designs, and likely to be developed by other Departments.

*‘Exemplar designs are to show the art of the possible and leadership. There is no requirement that they be taken up, but there is very strong advantage in doing so. We are quietly confident.’*

## PFI is not reliably delivering innovation for sustainability

- 3.14 The high risk of bidding, and the lifecycle risks taken on by contractors as part of a 25-30 year contract, tend to discourage innovation and in particular the uptake of new technologies. Bidders anticipate that clients will not pay the increased cost of capital that accompanies risk transfer to the private sector. As a result the debt to equity ratio of PFI finance has increased, and with it risk-aversion. It is not unknown for debt funders to veto the use of particular technologies in a contract, even where the client has accepted them.

- 3.15 HM Treasury has signalled that PFI should not be used to drive innovation, on the basis of the poor value for money shown by PFI contracts to deliver IT facilities. While technology-specific contracts may not be appropriate to PFI, there is still a need to ensure that infrastructure projects are helping to kick-start markets for new environmental technologies. There is some evidence that this is happening with PFI waste contracts, but the experience of PFI with waste is still limited. It is also important that contracts are sufficiently flexible to allow replacement equipment to be kept up-to-date in terms of best available environmental and economic performance. Contract flexibility has again been reduced by increasing debt-equity ratios in finance and the need to consult multiple parties if contracts are revised.

*‘PFI is good at driving ‘creeping’ innovation – things that are a bit different but not totally untried, and not that different to what could have been procured conventionally.’*

*‘Once the three best bids have been identified, public funding should be available to encourage the preparation of final bids that incorporate proposals for sustainable development innovations through the lifetime of the project.’*

*‘Once the process has narrowed down to three good bidders, they should be paid out of Government funds to come up with innovative bids.’*

## central government evaluation is not visibly driving sustainability

- 3.16 Approval processes by Private Finance Units (for centrally-procured projects) and the Project Review Group (for local authority procured projects) are not giving sufficient support to procurement professionals on making judgements about non-financial costs and benefits. For instance, DfES prioritisation criteria include ‘wider government agendas’, which includes sustainable development, but the weighting given to this is unclear. The Project Review Group evaluates design quality, but does not refer to the importance of sustainability in design.
- 3.17 The OGC’s Gateway Review process is now looking at whether guidance, such as the Green PPP guidance and Achieving Excellence in Construction guidance, is being used, although their role is to ask questions rather than stipulate practice.
- 3.18 The Public Accounts Committee (PAC) and the NAO have both stressed that departments should fully evaluate all the costs and benefits of entering into PFI projects. However, neither the Public Accounts Committee (PAC) nor the NAO appear to have commented as yet on the achievement of sustainability through PFI.
- “ the Project Review Group evaluates design quality, but does not refer to the importance of sustainability in design”

### box a: the NAO approach to environmental and sustainability issues in PFI projects

The NAO has published over 40 reports on a wide range of PFI/PPP projects. In many of their reports the NAO has emphasised the importance of departments following relevant Treasury, OGC and departmental guidance in developing PFI projects. The NAO has also stressed the importance of departments fully evaluating all the costs and benefits of their PFI projects.

The NAO has made a statement about the need to take into account non-financial costs and benefits in choosing the PFI route<sup>x</sup>, and a statement that the lowest cost does not always represent the best value when bids are being evaluated<sup>x</sup>. The PAC has recommended that 'Departments should be clear how benefits will be measured and monitored on each of their PFI projects' and recommended the use of user surveys to help evaluate this<sup>xi</sup>. The Treasury agreed with this recommendation, saying that 'OGC's Gateway Process will establish whether post implementation reviews have been carried out including where appropriate user surveys'. These statements have not been further elaborated by the NAO or the PAC in terms of saying what weighting non-financial factors should be given in bid evaluations or in later evaluations of project performance.

In its 2003 report PFI Construction Performance<sup>xii</sup>, a survey of all English central government PFI construction projects due to be completed by Summer 2002, the NAO recommended that "as part of their ongoing relationship aimed at improving the built environment, the OGC and CAGE should publicise good examples of design and construction in PFI projects, in conjunction with departments and the private sector" but did not otherwise make mention of sustainability considerations.

Although the NAO has not, as yet, specifically evaluated in detail the environmental or sustainability performance of PFI projects such as whether whole life costing is driving environmental benefits in energy, water and materials efficiency it has told us that it is interested in these issues and is particularly keen to identify examples of good practice. The NAO is well placed to scrutinise the sustainability performance of PFI: it has produced a number of reports on sustainability issues and is represented on working groups of European and international public sector auditors considering environmental audit issues.

*'PAC is seen as policing least-cost bid choice. If a client chooses a more expensive bid, then PAC will ask for justification, and it takes a brave accounting officer to be able to argue the merits of non-financial benefits like sustainability, or of reduced energy price risk.'*

## chapter IV – recommendations

‘Central government needs to set a clearer policy and implement it. Departments such as ODPM and Treasury need to make sustainability criteria a requirement of PFI. Otherwise, if you don’t ask for it, you won’t get it.’

### HM Treasury guidance

- 4.1 HM Treasury is preparing new guidance on how PFI proposals should be assessed for their **‘value for money’**. This guidance is crucial because it sets the overall framework within which individual departments’ Private Finance Units (in the case of centrally procured programmes and projects) and also the Project Review Group (in the case of local authority procured projects) make judgements on the relationship between cost and quality.
- 4.2 The Value for Money guidance should:
- Emphasise the sustainability opportunities of the PFI route and make sustainability one of the desirability criteria for PFI.
  - Signal the need to incorporate wider government agendas and their budget implications in the Outline Business Case for a PFI project, i.e. how the project can contribute to public policy goals including impact on transport, energy policy, and employment.
  - Clarify that ‘design quality’ should deliver environmental and social benefits, and provide guidance on what these benefits include. It is also crucial to indicate how ‘quality’ is to be weighed against ‘affordability’ at both programme and project level.
- 4.3 Following on from the Value for Money Guidance, HM Treasury’s guidance on how clients should evaluate bids is also due to be revised.

The new Bid Evaluation guidance should:

- indicate how to quantify sustainability specifications at a programme and project level, to increase contractor confidence that more sustainable bids will be rewarded. For some sustainability features, financial benefits to the project or to wider public spending can be quantified and brought into assessments of affordability and value for money. For others, monetary values cannot be assigned in a robust way. Targets proportionate to national public policy commitments may be the most appropriate quantitative measures to guide bidders and inform bid evaluation.
- advocate that sustainability advisers involved in preparing output specifications should be retained at bid evaluation stage.

“ targets proportionate to national public policy commitments may be the most appropriate quantitative measures to guide bidders ”

### box b: quantification of sustainability in bid evaluation

**financial values:** Some sustainability measures will result in avoided lifecycle costs, and the client should quantify these, and factor them into bid evaluation and affordability negotiations. Energy and water efficiency measures reduce operating costs, which may lie with the contractor (paid for through the unitary charge) or with the client. Energy and water efficiency specifications can be translated into cost reductions over the life of the project based on energy and water price forecasts. Where energy and/or water costs would be borne by the client they risk being omitted from affordability negotiations: such negotiations should not focus on the unitary charge to the exclusion of client running costs. Clients must also risk-adjust bid costs to take account of risks retained by the client, such as energy pricing. Waste minimisation can reduce the construction cost component of the unitary charge, as quantified by case studies such as Great Western Hospital, Swindon<sup>xiii</sup>. However, this is more likely to occur if waste minimisation is specified across a programme so that contractors can develop appropriate supply chain contracts.

To supply the evidence base for these avoided life cycle costs, departments should be required to collect data on technology and project performance that can better inform whole life cost modelling.

Others measures can help avoid wider public spending by a range of government departments. Brownfield site use may avert the need for investment in new transport infrastructure by DfT. Use of local low-skilled labour in construction and facilities management could reduce unemployment benefit payments by DWP. These financial costs and benefits should inform programme-level targets, but clients should also be asked to consider them when assessing value for money.

**non-financial values** Calculations of public spending avoided may be made with comparative ease in some cases. However, many of the broader public policy benefits of sustainable procurement cannot be easily translated into avoided costs, for instance, calculating the avoided spend on crime and unemployment benefit from making schools available for adult education and community use. (See table) Given the methodological and conceptual flaws that have been encountered in past efforts to monetarise sustainability goals we would caution against requiring this kind of 'evidence base' for bid evaluation.

The clearest basis for quantification of sustainability would be a specified score against the proposed Code for Sustainable Buildings, which should reflect best practice in relation to national policy targets. This would be an appropriate index only if it sets clear minimum targets for "key resource efficiency criteria (energy and water efficiency, waste and use of materials)", as recommended by the Sustainable Buildings Task Force. A limited number of additional targets should be set as appropriate at a programme level, where there are programme-specific priorities such as visible environmental technologies in schools. Challenging sustainability targets, such as on-site generation, should be set at a programme rather than a project level, as this will reduce bid risk for contractors and enable them to develop appropriate supply chain contracts across a number of deals.

Clients could then indicate clearly to bidders in the output specification what project-specific weighting will be given to improvements above the specified CSB score, or to measures not included in the CSB framework. These may include 'softer' sustainability measures like community access.

*'The Government's procurement policy is that all public procurement of goods and services, including works, is to be based on best value for money – the optimum combination of whole life cost and quality to meet the requirement'. (Green Public Private Partnerships – ODPM/OGC 2002)*

## the role of departmental Private Finance Units and the Project Review Group

- 4.4 PFI programmes (collections of projects) and individual projects are given approval by departments' PFUs. In the case of projects proposed by Local Authorities, they are also scrutinised by a Project Review Group, chaired by the Treasury and comprising representatives of relevant departments. It is at this level, through programme and project requirements set by the departments, and then through the approval process, that the greatest influence can be brought to bear on the sustainability of PFI projects.

### standards and targets

- 4.5 PFUs should set a limited number of programme-specific sustainability standards and targets on issues particularly pertinent to the department's agenda, where sufficient scope is not given to these in the forthcoming Code for Sustainable Buildings. Setting these targets at a programme level would help overcome the bid risk that contractors associate with non-standard sustainability solutions, by giving greater certainty and enabling contractors to develop appropriate supply chain contracts across a number of deals.

“ Private Finance Units should set a limited number of programme-specific sustainability standards and targets”

For instance, Building Schools for the Future could usefully specify:

- catering facilities and catering staff training in fresh food preparation
  - provision of safe routes to school (bus services, cycle lanes)
  - dual use facilities for community use
  - the incorporation of visible environmental technologies, (eg rainwater harvesting, micro-wind turbines) for educational purposes
- 4.6 Programme delivery agencies, such as Partnerships for Schools and Partnerships for Health, should:
- be rewarded according to their delivery of broader public health, education and wider sustainability objectives across the programme.
  - be required to collect data on the environmental and economic performance of sustainability measures, to provide an improved evidence base for whole-life costing models in future. To supply the bigger picture, whole life cost modelling/software needs to be refined to incorporate data on project performance within

programmes, and give due weight to long-term costs and benefits relevant to the sector. There are still some fundamental questions that would benefit from funded research and data collation, including:

- the health and educational effects of daylighting and green spaces;
- how to reconcile natural ventilation with requirements to keep temperatures within narrow parameters in hospitals;
- the long-term performance of materials with recycled content;
- and the development of new materials with optimum performance on durability, re-usability, recyclability and safe disposal.

#### approvals

4.7 The approvals process overseen by PFUs and the Project Review Group will then need to:

“ the approvals process will need to assess whether the affordability envelope gives sufficient scope for value for money”

- Assess whether the affordability envelope gives sufficient scope for value for money (ie quality over least cost). Accounting officers should be asked to describe how the project cost ceiling takes into account whole life costing and has been corrected for optimism bias. They should also look at the relationship between project cost and any operating costs and risks that will be retained by the client, in case sustainability features built in at the beginning can reduce those as well.
- Check the quality of sustainability advice available to project teams, and that teams have access to the necessary skills and training. In particular, approvals should check project teams’ capabilities to meet the programme-level targets and standards as recommended above.
- Reward innovative sustainable projects with rebates on development costs for clients and assignment of preferred contractor status to contractors within the procurement programme. This model is starting to be applied by the DfES, which indicates in its bidding guidance to LEA clients that successful bidders whose projects are particularly innovative, or have to overcome notable barriers, may apply for a contribution towards their development costs.

4.8 As a consequence of the programme standards and targets, PFU guidance to clients should advocate the following:

- Output specifications should set out programme and project-specific sustainability targets, and where relevant design quality indicators (DQIs), with clear indication of the relative weight they will be given in bid evaluation. As noted above, the proposed Code for Sustainable Buildings should become the framework for setting targets (see box b).
- Output specifications could require contractors to submit a sustainability plan as a clear basis for short-listing. This would encourage and reward creative, holistic thinking beyond the minimum targets and design quality indicators (DQIs).
- The pre-qualification questionnaire should be used to indicate that the client will require sustainability competencies and specify these – this would help bidders to plan consortia, and bring in appropriate suppliers.
- Project manager job specifications should require appropriate training, and there should be enhanced emphasis on design expertise in project teams. A formal accreditation scheme for project managers would help to ensure high standards. Sustainability champions should be appointed at the board level of each client body, to ensure that project teams are giving due weight to sustainability goals and bringing in expertise where needed.
- Project development budgets should allow the recruitment of sustainability advisors, and they should be retained at bid evaluation stage.
- The CABE enabler system should be mandated to identify sustainability advice gaps, and recommend sources of expert advice.
- When standard contracts are next revised, they should make use of pain-gain share agreements to incentivise operational efficiencies. It is not clear that risk-sharing assigns consortia clear incentives for energy/water efficiency investment – especially if the client pays the utility bills as in the case of NHS Estates. Given the long life of the contracts, departments should examine the potential for specifying Best Practicable Environmental Option for replacement equipment, to ensure that

“ when standard contracts are next revised, they should make use of pain-gain share agreements to incentivise operational efficiencies”

“ HM Treasury, Defra, and DTI should collaborate on a list of eligible environmental technologies for risk sharing agreements”

sustainability performance remains in line with evolving standards.

- Where procurement is designed to offer innovation support to emerging technologies, such as solar PV, microCHP or stationary fuel cells, risk-sharing agreements should be developed to avoid excessively high costs of capital. The client may retain lifecycle risks. HM Treasury, Defra, and DTI should collaborate on a list of eligible environmental technologies for such risk sharing agreements, with supporting data from field trials and demonstration projects.
- Bid risk and time constraints on innovation should be addressed through variations on early contractor involvement (ECI). ECI (being applied by the Highways Agency) is where bids are decided on the contractor’s rates and expertise, and the project itself is developed by client and contractor working together. However, there is also potential for early contractor involvement under conditions of competition, through informal engagement, between the OJEC and ITN stages.

*‘The trick is to have the delivery body, for instance Partnerships for Schools, working at risk and have a design quality element to that risk.’*

*‘Risk sharing can cater for most policy agendas – aim is always to transfer the level of risk sufficient to provide the right incentives to deliver.’*

## the roles of the NAO, PAC and OGC Gateway Reviews

- 4.9 Central government evaluation, by the NAO, PAC and the OGC Gateway Review teams, must ensure systematic and transparent weighting of sustainability. The NAO needs to take a keener interest in value for money, including non-financial costs and benefits, and assess how projects are delivering on wider policy agendas; and should report on this basis to PAC.
- 4.10 The Gateway Review approach, in its use of red, amber, and green lights to guide clients in due process, should be a stimulus to whole-life-costing and broader sustainability thinking in project teams. Check list criteria could include the existence of a sustainability plan, the ability to meet key targets and standards, and consideration of the full range of possible sustainability factors as listed in Annex II. Although we accept the argument that Gateway Reviews are primarily a tool to help project staff, it would enhance external confidence in the reviews as a means of scrutiny if the reports, or a sample of them, were made public. The DoH is developing its own gateway review process, as is 4ps for local authority clients.

## the role of contractors

- 4.11 Contractors bidding for PFI projects are in a highly competitive environment, using finance at risk, and bid costs and bid risk are high. This is clearly a disincentive for some companies to be pro-active and creative on the sustainability agenda. However, for others, being pro-active and helping to educate client organisations is seen as a source of 'first mover advantage', especially in a climate where there may in future be more sustainability standards and targets to meet, and we naturally encourage this line of thinking.
- 4.12 Contractors should at the very least be looking to develop their supply chains in pursuit of greater sustainability, by sourcing materials and services that seek to minimise energy, water and waste. Producer Responsibility for the construction sector is a growing topic of debate, and companies could prepare for this possibility by thinking about what a 'closed loop' for construction materials and waste might look like.
- 4.13 Contractors should also be benchmarking the sustainability features that they are prepared to offer against what is available elsewhere in the sector, and share experience so far as is possible without losing competitive advantage.
- 4.14 To be more pro-active and help address some of the deficiencies in the PFI process identified in this report, the construction sector could collaborate to create an innovation fund, using tax credits, perhaps from the landfill tax or the aggregates levy.

## in conclusion

PFI is just one route to the procurement of public buildings and infrastructure. However, the scale of proposed investment in new hospitals and schools by this route makes it imperative that the opportunity is taken to use long-term PFI contracts to deliver a flagship generation of sustainable public buildings.

The leverage effect of public procurement will be crucial in transforming the market in favour of more sustainable products and services across a range of sectors. This is an approach already demonstrated by a number of other countries, notably Japan. In this country, PFI could perform a pivotal role by combining private sector expertise and drive with public sector standard-setting and leadership to transform the market for sustainable building products and practices.

**“ The leverage effect of public procurement will be crucial in transforming the market in favour of more sustainable products and services”**

## annex I – list of interviewees

|  |   |
|--|---|
| <b>4ps</b>   | Paul Kelly, Senior Executive  |
| <b>AWG plc</b>   | John McFadzean, Head of PFI Business  |
| <b>Balfour Beatty Capital Projects</b>                         | Ian Rylatt, Managing Director,<br>Balfour Beatty Capital Projects Limited<br>Tim Sharp, Director of Corporate<br>Communications, Balfour Beatty plc<br>Sally Brearley, Director of Health,<br>Safety and Environment, Balfour Beatty plc<br>Angus Richmond, Operations Commercial<br>Manager, Balfour Beatty Capital Projects Limited |
| <b>Barclays Capital</b>  | Chris Elliott, Managing Director, London  |
| <b>BRE</b>   | Robert Garwood, Head of Education PFI   |
| <b>Cap Gemini</b>  | Shaun Carr, seconded to Building Schools<br>for the Future  |
| <b>Commission on Architecture<br/>in the Built Environment</b> | Caroline Fraser, Enabling Adviser   |
| <b>Sustainable Development<br/>Corporation</b>                 | Jon Bootland, Managing Director   |
| <b>Department for Education<br/>and Skills</b>                 | Peter Stanton-Ife, Programme Director,<br>Building Schools for Future   |
| <b>Department of Health</b>                                    | Peter Cockett, Policy Manager,<br>Private Finance Unit  |
| <b>Faber Maunsell</b>  | Richard John, Director of Sustainable<br>Development Group  |
| <b>Government Estates/SDU</b>                                  | Bronwen Jones, Director of the Sustainable<br>Development Unit, DEFRA   |
| <b>Herefordshire Council<br/>Education Department</b>          | George Salmon, Head of Policy and Resources   |
| <b>Hinchingbrooke Health Care<br/>NHS Trust</b>                | Andrew Geddes, Project Manager  |

|                                     |   |
|-------------------------------------|---|
| <b>HM Treasury</b>                  | Geoffrey Spence, Head of PFI  |
| <b>KPMG</b>                         | Tim Stone, Chairman of KPMG's PPP Advisory Services   |
| <b>McAlpine Project Investments</b> | Chris Arthur, Project Director  |
| <b>NAO</b>                          | David Finlay, Head of PFI Development<br>Jane Squire, PPP Unit  |
| <b>NHS Estates</b>                  | Lorraine Brayford, Senior Sustainable Development Policy Manager  |
| <b>OGC</b>                          | Ian Glenday, Director of Gateway Reviews  |
| <b>Partnerships UK</b>              | James Stewart, Chief Executive  |
| <b>Skanska</b>                      | Alan Gillman, Director, Skanska BOT UK Ltd.<br>Simon Hipperson, Executive Vice-President, PFI/PPP Business Stream |
| <b>Surrey County Council</b>        | Ian Christie, Co-head of Economic and Sustainable Resources   |

## annex II – illustrative matrix of sustainability goals, output specifications and cost measures

The matrix is designed to demonstrate that sustainability goals can be expressed as output specifications, and that for most of these the benefits can be quantified with current methodologies, often in terms of avoided costs. In future, more of the avoided costs may be costable, such as the costs to the health service in terms of the effects of air pollution on health as a consequence of increased car transport to access a building.

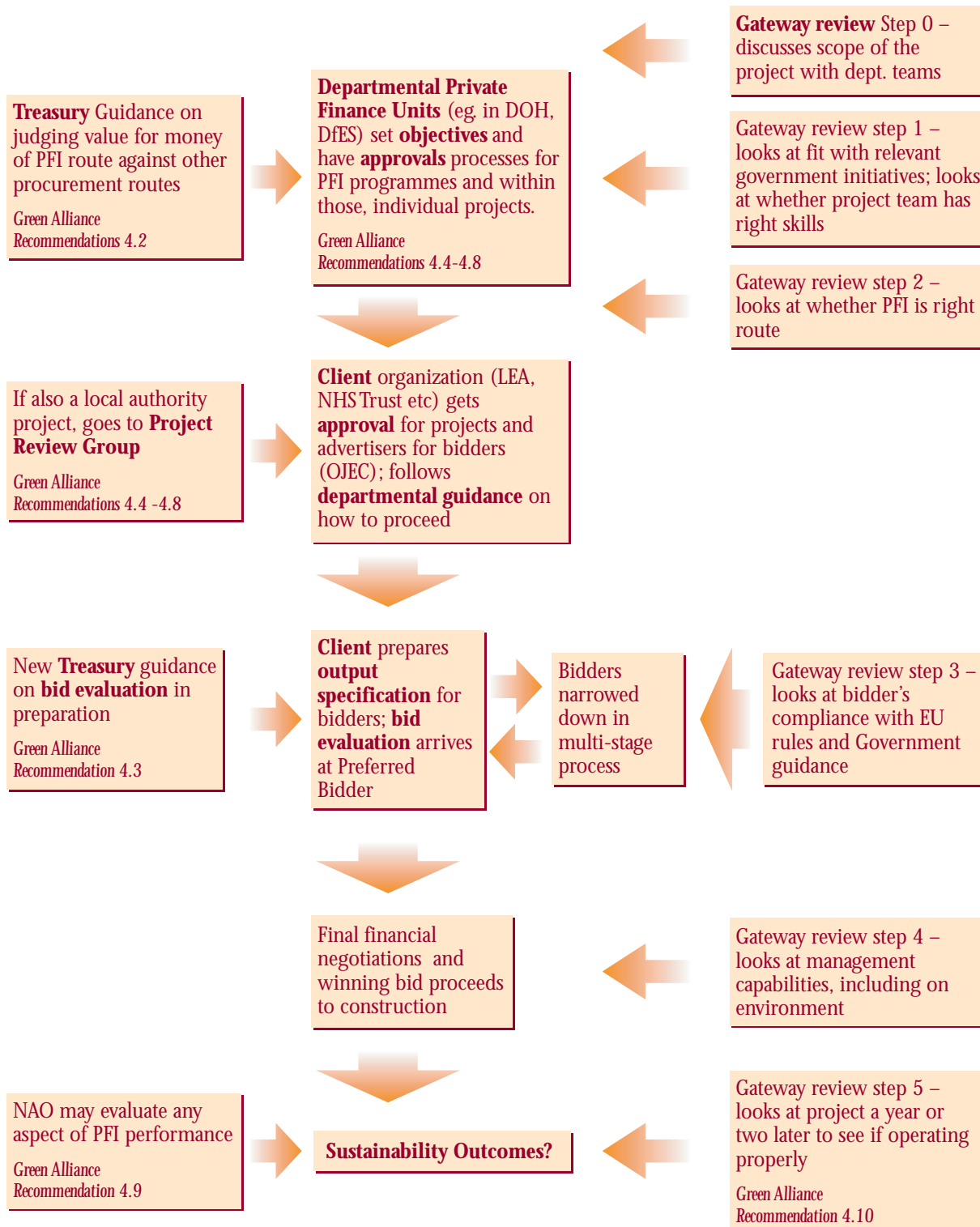
The parameters in the left hand column are not meant to be comprehensive, but reflect the most important issues covered in the ‘Green PPP’ guidance, together with some to reflect the UK’s Headline Indicators, and some social sustainability measures suggested by participants in this project. The matrix could usefully be elaborated by Departmental private finance units, in collaboration with the Treasury.

| <b>Green PPP – sustainability goals</b>   | <b>Output specification</b>  | <b>Cost measures</b>   |
|---|--|--|
| Smaller buildings, minimising resources   | Space allowances for specific functions  | Avoided costs of wasted space calculated using benchmarks from similar buildings     |
| Easy maintenance  | Durability of building fabric, fittings and decoration; building methods that allow easy access, disassembly, recycling and replacement of components. Could be part of requirement for a <b>Materials Plan</b> (see below). | Avoided costs calculated using benchmarks from similar buildings                     |
| Energy efficiency   | <b>Standard</b> for energy use per cubic metre   | Avoided costs calculated using benchmarks from similar buildings                     |
| Renewable Energy  | <b>Standard</b> for percentage of energy requirements generated on-site from renewable energy equipment  | Reduction in energy bills. Value of Renewable Obligation Certificates.               |
| Waste minimisation in construction and in use                                   | Contractors must have a <b>Materials Plan</b> as part of their sustainability plan – specifying sources, plans for waste minimisation and re-use, recycling and disposal   | Avoided costs of disposal if can be benchmarked against similar projects             |
| Water efficiency in landscaping, use of greywater, and on-site water management | <b>Standard</b> for water use in units per year; provision for greywater use; measures for sustainable drainage, rainwater harvesting  | Avoided costs of water benchmarked from similar buildings; avoided costs of flooding |

| <b>Green PPP – sustainability goals</b>                                     | <b>Output specification</b>   | <b>Cost measures</b>   |
|---|---|--|
| Future re-use, adaptability, recoverability                                 | <b>Re-use plan</b> (could be part of materials plan)  | Avoided cost of new materials; labour to rebuild; disposal of waste  |
| Siting: In-fill & mixed development   | In-fill and mixed development wherever possible   | Avoided cost of new transport infrastructure   |
| Minimise car use  | <b>Transport plan</b> , if not already required by planning authority; maximise use of ‘green’ public transport options   | Avoided cost of building and maintaining car-parking facilities; avoided costs of local pollution effects on health  |
| Optimum use of site resources   | Design driven by availability of solar energy, natural vegetation, soil type, water resources; benefit from existing vegetation for insulation and cooling      | Could be incorporated into Design Quality Indicators – but not costable?   |
| Promote biodiversity  | % green space, of particular habitat quality; ceiling for importation of new plants; specify native/local flora   | Species diversity by surveys – not costable?<br>Lower costs for locally-available plants                             |
| Avoid ozone depleting chemicals   | No ozone-depleting chemicals  | More rapid recovery of ozone layer – not costable?   |
| Durable products and materials  | <b>Standards</b> for minimum life of particular project components, although can be traded against recyclability, use of renewable materials                    | Avoided cost of replacement, waste disposal  |
| Low embodied energy materials   | Incorporate in materials plan (see above) – provide list of materials with unacceptable levels of embodied energy   | Global benefit – not costable?   |
| ‘Good wood’   | Materials plan to require FSC timber  | Global benefit – not costable?   |
| Make education a daily practice   | Require a <b>Sustainability Training Plan</b>   | Not costable?  |
| <b>Not covered by Green PPP:</b>  |   |  |
| Indoor environment: day lighting, noise reduction, ventilation, air quality | <b>Standards</b> for minimum daylight and maximum noise levels, use of mechanical ventilation must be justified, maximum permitted levels for indoor pollutants | Avoided costs of energy, avoided costs of absenteeism; increases in productivity; reduced patient stays in hospital. |
| Regeneration  | Encourage use of brown-field sites  | Avoided costs of extra infrastructure to support green-field sites   |

| <b>Green PPP – sustainability goals</b>                                  | <b>Output specification</b>  | <b>Cost measures</b>  |
|--|--|---|
| Safety and security  | Measures to discourage vandalism; transport options to maximise personal safety  | Avoided costs to police of dealing with incidents; avoided costs of absenteeism and high staff turnover                   |
| Access, social inclusion, skills training, encouragement of volunteering | Disabled access; measures to train and employ disadvantaged groups; measures to enhance skills levels of all employees; capacity to train and utilise volunteers | Avoided costs of benefit payments, avoided costs of high staff turnover   |
| Nutrition and food   | Need for a food sourcing policy to consider benefits of local sourcing and preparation as against pre-packaged cook-chill  | Possible avoided costs of transport and disposal of packaging; avoided costs of benefits through greater local employment |
| Shared facilities  | Guidance of types of usage and organisations that would be desirable   | Not costable?   |

# annex III – simplified and illustrative PFI procedure with Green Alliance recommendations



## bibliography

- Better Buildings, Better Lives – Report of the Sustainable Buildings Task Group, 2004
- PFI: Meeting the Investment Challenge – HM Treasury 2003
- PFI: Construction Performance – Report by the Comptroller and Auditor General HC 371 February 2003
- Public Private Partnerships in the National Health Service: The Private Finance Initiative – NHS Executive, 2000
- Sustainability accounting in the construction industry – CIRIA, 2002
- The Green Book – appraisal and evaluation in central Government – HM Treasury, 2003
- Draft Value for Money Guidance – HM Treasury 2004
- Improving standards of design in the procurement of public buildings, CABE, 2002
- Green Public Private Partnerships – a guidance note on how to incorporate environmental considerations within PPPs and PFI projects, ODPM, DEFRA, DfT, OGC 2002
- Sustainability Lessons from PFI and Similar Private Initiatives – BRE, DTI (not dated)
- Sustainable PFI: Contracts and Incentives – A combined note for three CIEF workshops held in Edinburgh, London and Manchester, 2003. For further information on the CIEF (Construction Industry Environmental Forum) and on obtaining a copy of the workshops report, see [www.ciria.org](http://www.ciria.org)
- Schools for the Future – Exemplar Designs – DfES 2004
- Sustainable Development in the NHS – NHS Estates 2001
- Joint note on Environmental Issues in Purchasing – DEFRA/OGC 2003
- Framework for Sustainable Development on the Government Estate: Defra, 2003
- How the NHS must think sustainably, Harrison, D., Health Matters, 50, Winter 2002/03

## online resources

Information about DOH approach to sustainability is on DOH website:

<http://www.dh.gov.uk/AboutUs/AimsAndObjectives/SustainableDevelopment/fs/en>

The NEAT tool and guidance is available on the NHS Estates website:

[http://www.nhsestates.gov.uk/sustainable\\_development/content/neat.html](http://www.nhsestates.gov.uk/sustainable_development/content/neat.html)

Information about the SEAM tool and guidance and details of DfES Sustainable Development Action Plan are at:

<http://www.teachernet.gov.uk/wholeschool/sd/focuson/sdenvironment/seam/>

and

<http://www.dfes.gov.uk/sd/objective3.shtml>

Details of the Achieving Excellence in Construction publication series are on the OGC website:

<http://www.ogc.gov.uk/index.asp?docid=218>

Details of the Gateway Review Process are on the OGC website:

<http://www.ogc.gov.uk/index.asp?id=1000837>

Details of the CABE enabling scheme are on the CABE website:

<http://www.cabe.org.uk/enabling/how.html>

The Centre for Healthcare Architecture and Design has published a report on The Architectural Healthcare Environment and its Effects on Patient Health Outcomes, based on research by Professor Bryan Lawson and Dr Michael Phiri of the University of Sheffield School of Architecture. Details at:

[http://195.92.246.148/nhsestates/chad/chad\\_content/update/news\\_and\\_events.asp](http://195.92.246.148/nhsestates/chad/chad_content/update/news_and_events.asp)

Details of U.S. research on the effects of environment on patient well-being are at Centre for Health Design:

<http://www.healthdesign.org/>

also The Whole Building Design Guide:

<http://www.wbdg.org/>

## notes

- i 'Meeting the Investment Challenge' HM Treasury 2003
- ii Muck off a truck, Hannah Pearce, Soil Association, 2003
- iii Changing Patterns – UK Government Framework for Sustainable Consumption and Production, DEFRA 2003 s
- iv Value for Money consultation, HM Treasury, 2004
- v One of Environment Industries Commisison's members, a large supplier of ventilation equipment, contacted over a period of six weeks in 2003 a number of local authorities and the Ministry of Defence. According to their research none of the organizations had a policy for specifying or insisting that energy efficient products are used in their building projects. The majority of the projects were PFI contracts.
- vi Achieving Excellence in Construction Design Guidance – 09 – Design Quality. OGC 2004: 'Good design takes full account of environmental and sustainability concerns'.
- vii Foreword to the DfES Exemplar Designs Compendium
- viii From introduction to CABE enablers on the CABE website:  
<http://www.cabe.org.uk/enabling/criteria.html>
- ix The PFI Contract for the Redevelopment of the West Middlesex University Hospital NAO Report HC 49, 2002
- x Innovation in PFI Financing: The Treasury Building Project NAO Report HC 328, 2001
- xi PFI: Construction Performance PAC Report HC 567 2003
- xii PFI: Construction Performance. NAO/Office of Comptroller and Auditor General, HC 371 Session 2002-2003
- xiii Built by Carillion, witten up in *Sustainability Lessons from PFI and Similar Private Initiatives* – BRE, DTI (not dated)



Green Alliance  
40 Buckingham Palace Road, London SW1W 0RE  
tel: 020 7233 7433 fax: 020 7233 9033  
email: [ga@green-alliance.org.uk](mailto:ga@green-alliance.org.uk)  
website: [www.green-alliance.org.uk](http://www.green-alliance.org.uk)