House of Commons

Business and Enterprise Committee

Construction matters

Ninth Report of Session 2007–08

Volume I

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Summary

The construction industry provides employment for more than 2.8 million people. The sector contributed 8.7% of the UK economy's gross value-added (GVA) in 2006—twice that produced by the energy, automotive and aerospace sectors combined. The built environment—the roads, houses, offices, factories, etc, which represent the output of the industry—is estimated to account for some 70% of UK manufactured wealth. Hence, the industry's ability to deliver projects successfully in terms of time, cost and design quality has a major impact on the economy's wider performance.

Construction is vital for the provision of good quality public services. It plays a role in the delivery of just over half of the Government's 30 public service agreements. It is also key to the long-term objective of making the UK a low-carbon society: buildings account for around half of greenhouse gas emissions.

The health of the construction industry is accordingly a matter of public concern. In some areas it is a world beater: but there are also significant problems. The industry is complex and fragmented; it operates on low profit margins. There are difficulties in ensuring that lessons from experience are shared; that the workforce is sufficiently trained, particularly regarding the provision of apprenticeships; and that appropriate contractual relationships are in place between different parts of the supply chain. There is also a high risk attached to innovative approaches which could save costs, time or carbon emissions.

The construction industry has enjoyed a period of sustained growth for over a decade, in sharp contrast to the cycles typical of much of the post-war era. Construction output in parts of the industry, particularly house-building, is experiencing a sharp downturn in the wake of the fall-out from the sub-prime mortgage market crisis. While public sector expenditure is always subject to a degree of political uncertainty, in the coming years the industry currently expects to benefit from rising infrastructure investment and greater spending in areas such as social housing and education.

Government can help by setting the regulatory framework and providing support for training, but ultimately standards are driven by the sector's clients. The industry itself has shown a willingness to change; but it can only do so if its customers support that change. The public sector is the industry's biggest customer, accounting for around a third of construction output—it has the leverage to force improvement.

The industry has set new targets for itself, and, in conjunction with government, established a *Strategy for Sustainable Construction*. We hope these developments and this Report will provide the impetus for widespread long-term improvement in the sector's performance, recognising the significant challenges it faces in light of the current economic downturn. The Government, because of its roles as both client and regulator, can and must be at the forefront of the drive to embed best practice, and to ensure the transfer of learning from frequent to infrequent clients. It must provide organisations such as BERR, the Office of Government Commerce and the Health and Safety Executive with the resources and power to achieve this. The sector also needs strategic leadership. There must be someone both government and the industry accept as having overall responsibility for construction.

Truly joined-up working between government and industry, and between different government departments, would be immeasurably improved by the creation of a post of Chief Construction Officer. And the Government should remember that, as the industry's largest single client, helping the sector to improve means that it and the taxpayer will directly benefit.

1 Introduction

Our inquiry

1. In March 2007 the then Trade and Industry Committee launched its first major inquiry into the UK's construction industry.[1] Setting broad terms of reference, it challenged the sector to demonstrate its strengths, but also to highlight areas where there was need for improvement, and the role government could play in achieving this. We received an overwhelmingly positive response from the sector. One year ago, the outlook for the industry was optimistic, against a backdrop of over a decade's near continuous growth. Today, industry sentiment is much more uncertain, with the expectation of economic slowdown both this year and the next in the wake of the US sub-prime mortgage market crisis. It is unclear at the moment what the implications of these events are for the UK's construction industry, especially when weighed against the many large building programmes expected in the coming years, such as the 2012 London Olympic Games, a new generation of nuclear power stations, Crossrail, and Building Schools for the Future. These developments require a "strong and dynamic UK construction industry".[2] We hope this Report may act as a catalyst for long-term improvement across the sector, helping it to weather the current storm and prepare for future challenges.

2. In the course of our inquiry we took oral evidence from the Construction Confederation, the Construction Industry Council, the Construction Products Association, the Union of Construction, Allied Trades and Technicians (UCATT), ConstructionSkills, Unite—the union, Constructing Excellence, the Commission for Architecture and the Built Environment (CABE), the Building Research Establishment (BRE), the Building Sector Research and Information Association, the Construction Industry Research and Information Association, the Federation of Master Builders, the National Specialist Contractors' Council, the Specialist Engineering Contractors' Group, the Construction Clients' Group, the Olympic Delivery Authority, BAA, the Office of Government Commerce (OGC), and the Minister of State for Competitiveness at the Department for Business, Enterprise and Regulatory Reform (BERR), then Stephen Timms MP. The Committee also visited the Olympic site in Stratford and the Royal London Hospital redevelopment at Whitechapel. In addition, we received more than 50 written memoranda.[3] We would like to thank all those that have contributed to our evidence-gathering. We are grateful to all of them for their patience as this Report has taken longer than we would have liked. Initial uncertainty over the future of the Department of Trade and Industry (and therefore our own future as a committee), and then the huge volume of evidence we received, and to which we wished to do justice, both delayed its publication. We hope it is judged to be worth waiting for.

3. The remainder of this chapter sets out why construction is important, the current structure of the industry, the reforms it has undergone in recent years, and its relationship

1 Following machinery of government changes in June 2006, the Committee took oral evidence as the Business, Enterprise and Regulatory Reform Committee. Its title has since shortened to Business and Enterprise Committee.

2 Ev 161, para 35 (Association of Consultancy and Engineering)

3 Business and Enterprise Committee Ninth Report of Session 2007–08, *Construction matters*, HC 127-II

with government. It also establishes the key themes of the Report. Chapter 2 looks at the role of the client, particularly in the public sector, in reforming the industry. Chapter 3 considers recent and expected growth in the sector and the role government can play in giving firms the confidence to invest in their capacity to deliver. Chapter 4 analyses the recent economic performance of the industry and looks at ways in which it could function better. Chapter 5 considers issues relating to the construction workforce, including progress in improving health and safety and the provision of training. Chapter 6 looks at government's role in improving environmental sustainability both in the construction process and the end product. Chapter 7 concerns the responsibilities of government as client, regulator and provider of funding in raising standards in the sector. Finally, Chapter 8 analyses how accumulated best practice is being put to use for the 2012 Olympic Games.

Why is construction important?

4. Construction matters. It provides employment for more than 2.8 million people. The sector contributed 8.7% of the UK economy's gross value-added (GVA) in 2006, worth over £100 billion. That is more than twice the GVA produced by the energy, automotive and aerospace sectors combined.[4] Construction generates some £10 billion of exports each year. Parts of the sector are held in high regard internationally—design alone produces over £3.8 billion of export income per annum.[5] In turn, the built environment—the roads, houses, offices, factories, etc, which represent the output of the industry—is estimated to account for some 70% of UK manufactured wealth.[6] The construction sector's ability to deliver projects successfully in terms of time, cost and design quality has a major impact on the economy's wider performance.

5. However, as the Minister of State for Competitiveness, who is responsible for the industry told us, "its importance for government goes a long way beyond its economic contribution".[7] Construction is vital for the provision of good quality public services, playing a role in the delivery of just over half of the 30 public service agreements set out in the 2007 Comprehensive Spending Review.[8] Better quality schools and hospitals or investment in housing and urban regeneration have the potential to create improved outcomes for their users and enhanced standards of living. Moreover, buildings account for around half of greenhouse gas emissions—hence, the construction industry is key to the Government's long-term objective of making the UK a low-carbon society.

6. The construction industry is of vital importance, not only because of the sector's size, representing one twelfth of all value-added in the UK, but also because its output—the built environment—underpins most other economic activity, as well as contributing to the delivery of the Government's social and environmental objectives.

4 Office for National Statistics, *Annual Business Inquiry 2006*, November 2007, and Ev 123, Annex 1 (Department for Business, Enterprise and Regulatory Reform (BERR))

5 Ev 163, para 5 (Building Research Establishment), Ev 294 (New Civil Engineer) and Ev 271, para 2 (HR Wallingford)

6 Professor David Pearce, *The Social and Economic Value of Construction: the Construction Industry's Contribution to Sustainable Development*, November 2004

7 Q 571 (BERR)

8 *Ibid.*

The structure of the UK industry

7. The construction sector as defined by BERR encompasses a range of different activities, covering the whole construction supply chain. It includes the mining, quarrying, production and sale of materials and products. In 2006 the UK produced 2.5 billion bricks and more than 87 million cubic metres of concrete blocks.[9] It also covers construction contracting, be it house-building, large-scale civil engineering, or repair and maintenance. A whole range of professional services, including architectural, civil, structural, mechanical and electrical design, and project management are linked to construction, as well as allied services such as finance, IT and insurance.[10] As the Construction Industry Council told us, "the industry is enormously varied and large".[11] Unite claimed it "is unlike any other sector of the economy".[12]

8. The UK construction industry is highly fragmented, both by international standards, and in comparison to other domestic sectors. It has more than 270,000 active enterprises.[13] Over 90% of the 186,000 companies in construction contracting employ fewer than 10 workers, and almost 72,000 businesses are one-man operations. At the other end of the spectrum fewer than 130 companies have a workforce of 600 or more, although those firms generate around a quarter of the industry's output by value.[14] The professional services side is similarly fragmented—some 23,500 firms employ 225,000 people.[15] Even the largest company in the UK sector, Balfour Beatty, holds only a 3.5% share of the market. This would not even place it within the world's top 20 construction firms.[16]

Construction's clients

9. Table 1 below gives a breakdown of output by contractors in Great Britain, including estimates of unrecorded output by small firms and self-employed workers, excluding the construction products and professional services parts of the industry. It shows that the public sector was client to just over 31% of construction output in 2006, making it the single largest customer to the industry.[17] Repair and maintenance contributes the largest share of output, at 43%, followed by 'other new work' (31%), new housing (20%) and infrastructure (6%).

9 BERR, *Construction Statistics Annual 2007*, August 2007

10 Ev 123, Annex 1 (BERR) and Ev 259, para 6 (Greater London Authority)

11 Q 27 (Construction Industry Council)

12 Ev 381, para 8.3 (Unite—the union, Amicus branch)

13 Ev 117, para 4 and Ev 133, Annex F (BERR)

14 BERR, *Construction Statistics Annual 2007*, August 2007

15 Ev 123, Annex 1 (BERR)

16 Q 266 (Building Research Establishment)

17 Around 65% of infrastructure output stems from the private sector, with the remainder from the public sector.

Table 1: Construction output in Great Britain in 2006

Category		£ million	%
New housing	Public	3,442	3.0
	Private	19,572	17.2
Infrastructure		6,532	5.8
Other new work	Public	9,939	8.8
	Private Industrial	4,888	4.3
	Private Commercial	20,138	17.7
Housing repair and maintenance	Public	8,864	7.8
	Private	15,766	13.9
Other repair and maintenance	Public	8,779	7.7
	Private	15,648	13.8
Total		**113,568**	**100**

Source: BERR, Construction Statistics Annual 2007, Table 2.1, August 2007

The workforce

10. BERR estimates that close to 600,000 of the sector's 2.8 million workers operate in the informal economy, particularly in private housing repair and maintenance, and therefore do not pay tax. We explore some of the implications of the size of the construction informal economy in Chapter 5. Of the 2.2 million legal employees, around 90% are male and more than 90% work full-time—both figures are significantly greater than the national average. There is also a high level of self-employment, estimated at over 900,000—also much higher than the national average—although this is subject to considerable seasonal variation and does not take account of the informal economy. Although a higher number than average hold trade apprenticeships, a greater proportion of people have either low or no qualifications in the construction industry, and fewer have level 4 qualifications. Migrant workers are also becoming increasingly important for the sector. Their share of the construction workforce has risen from 2.7% to 7.7% in the last 10 years.[18] But such national figures mask considerable regional variation. Self-employment is more prevalent in the South, corresponding to lower levels of trade apprenticeships and a greater dependency on migrant labour. In London 42% of construction workers are migrants, and 89% of firms are self-employed contractors.[19]

Implications of the industrial structure

11. The structure of the industry and the makeup of its workforce affect the way it operates. Because there is relatively little vertical integration in the supply chain there is a major

18 Ev 131, Annex E (BERR)

19 Q 579 (BERR); Ev 259, para 5 (Greater London Authority)

reliance on sub-contracting. For most non-housing projects, main contractors will bid for work on the basis of a fixed price, working to produce one-off designs for their clients and sub-contracting the delivery of much of the work. Specialist sub-contractors, in turn, further sub-contract work so that, for any particular project, a number of firms are likely to be involved. The Specialist Engineering Contractors' (SEC) Group told us around 85% of the value of the industry's output is delivered by a supply chain, containing specialist contractors, suppliers and manufacturers. Yet despite the fact that the supply chain is a key determinant of the success of a project, it often has comparatively little influence over procurement decisions, design and costings—this being largely the gift of the main contractor.[20] Once projects are completed, teams tend to break-up, each moving on to the next venture.[21] Some will regroup and work together over a number of projects, though, this is not yet the industry norm.

12. Not all parts of the construction industry function in this way. The construction products sector more closely resembles wider manufacturing in its processes. Elsewhere, the housing sector is characterised by the existence of developers who buy land and build homes speculatively, rather than to order, although it still operates on a project-by-project basis.[22] The domestic repair and maintenance market also works slightly differently, mirroring more closely the retail sector than other parts of the construction industry.[23] In addition, it has a higher proportion of firms with only a small number of employees.

13. Because profit margins are typically only 2-3%, the construction industry is particularly sensitive to cost. Activities which are not immediately necessary risk being sacrificed to ensure short-term profitability. All too often this can include investment in training, and research and development. Three quarters of construction employers do not offer any form of training. What is more, the project-based nature of large parts of the industry means the workforce has to be mobile and flexible. Although this allows the industry to respond quickly to changes in demand, it also means that companies are reluctant to invest in their employees, since they believe the benefits are more likely to be reaped by other firms.[24] At the same time, the industry struggles to innovate because the learning points from particular projects are usually team-based and lost when the team breaks up.

14. This industrial structure also helps explain the contrasting ways in which the sector is perceived internationally and by the general public. The Construction Industry Council told us that while the sector is "absolutely world-class, at the top, the public's perception is often conditioned by what they see in terms of the builder who comes to do a repair job in their home".[25] The fragmentation of the industry is also reflected in the sheer number of representative bodies, which BERR estimated at about 300.[26] The plethora of construction trade associations was demonstrated to us by the number of organisations we needed to examine to ensure our evidence adequately reflected the views of all stakeholders.

20 Ev 326, para A.1.3 (Specialist Engineering Contractors' Group)

21 Ev 236, para 2.5-2.7 (ConstructionSkills)

22 Q 402 (Home Builders Federation)

23 Ev 190 (Chartered Institute of Building)

24 Ev 237, para 2.9 (ConstructionSkills)

25 Q 27 (Construction Industry Council)

26 Ev 117, para 7 (BERR)

15. The construction supply chain encompasses an extremely wide range of activities, from quarrying to civil engineering to associated professional services. It is a highly fragmented industry, dominated by small firms with very little vertical integration. This, together with the inherently project-based nature of the sector's work, has profound implications for the way the industry operates. It uses sub-contracting extensively, which in turn has consequences for the composition of its workforce. Unreliable rates of profitability have repercussions on the sector's approach to investing in areas such as training and innovation, which are likely to be exacerbated under current market conditions. Our Report looks at what can be done to overcome the difficulties arising from the fragmented nature of the industry.

Recent construction industry reform

16. Since the industry came out of recession in the early 1990s there have been various drives to reform practices across the sector. The first concerted effort came in 1994 with the publication of Sir Michael Latham's influential *Constructing the Team* report. This was an independent review of construction, commissioned jointly by government and the industry. Its main recommendation was that "the client should be at the core of the construction process" and that the route to achieving client satisfaction was through "team work and co-operation".[27] As one of our witnesses said, it "remains one of the most effective and well considered studies of the industry".[28] Indeed, its central message that the role of the client is key and that team working is the necessary response to the fragmented nature of the industry, remains relevant 14 years on. The *Housing Grants, Construction and Regeneration Act 1998* (usually referred to as the *Construction Act*), which sought to deal with the endemic problems of poor payment practices and disputes in the sector, was a direct consequence of the Latham report.[29]

17. Four years later, the Construction Task Force, led by Sir John Egan, reiterated the same themes in its 1998 report *Rethinking Construction*. It acknowledged that while the industry's "capability to deliver the most difficult and innovative projects matches that of any other construction industry in the world […] there is deep concern that the industry as a whole is under-achieving". The report identified five key drivers of change: committed leadership; a focus on the customer; integrated processes and teams; a quality driven agenda; and a commitment to people. In support of these, the Task Force set three-year targets for improvement in areas such as project delivery time, cost and quality, and for on-site accident reduction. It also set up a demonstration projects programme, designed for organisations from across the industry to bring forward schemes that demonstrate innovation and new ways of working. This programme has been at the heart of the implementation of what became known as the 'Egan agenda'. In the intervening 10 years there have been almost 500 such projects, worth around £12 billion and involving more than 1,100 organisations.[30]

27 National Audit Office, *Modernising Construction*, HC 87, January 2001; Foreword written by Sir Michael Latham

28 Ev 271 (HR Wallingford)

29 Ev 220, para 2 (Constructing Excellence)

30 Ev 220, para 4 (Constructing Excellence)

18. While the construction industry and its clients responded positively to *Rethinking Construction*, actual progress in the years after its publication was described by the industry as 'slow and patchy' and we were told that "partnering and team-working arrangements have often appeared to be 'skin deep' or have excluded the supply chain".[31] Government's response to this was, in 2001, to establish the Strategic Forum for Construction. Its role is to oversee the implementation of the industry reform movement through its member bodies, including Constructing Excellence, ConstructionSkills, the Union of Construction, Allied Trades and Technicians (UCATT) and the main Construction Umbrella Bodies.[32] Chaired by Sir John Egan, the forum's first output was the 2002 report, *Rethinking Construction: Accelerating Change*. Building on the previous report, this set new targets for achieving industry reform in a range of areas by the end of 2007:

- 50% of construction projects by value to be undertaken by integrated teams and supply chains. (An integrated project team comprises the client's team and the supplier's teams, including contractors, specialist suppliers and those involved in design. An integrated supply chain is made up of all the parties responsible for delivering the end-product. Such supply chains often stay together from project to project.);[33]
- 50% of construction activity by value to be procured by clients that embrace the principles of the Clients' Charter. This sets minimum standards for clients to attain in areas such as procurement, health and safety, and environmental sustainability;
- A 50% increase in applications to built environment higher and further education courses;
- By 2006, a total of 300,000 qualified people to have been recruited and trained in the industry;
- By 2010 an increase in the annual rate of apprentice completions to 13,500;
- By 2010, a fully trained, qualified and competent workforce on all projects; and
- By 2004, 500 projects to have used the Design Quality Indicators (DQI), and 50% of all publicly-funded and PFI projects (having a value in excess of £1 million) to be using them. DQI is an online tool for evaluating the design quality of buildings.

19. Although the Strategic Forum has reported good progress against most of the targets set by *Accelerating Change*, particularly for skills, the most notable exceptions have been in adoption of the Clients' Charter and in promoting greater use of integrated teams and supply chains.[34] On the latter the Construction Products Association (CPA) told us it had proved difficult to measure exactly what was going on in the industry because what would be defined as an integrated project team in one part of the supply chain would not be integrated for another part. Nonetheless, the CPA told us "there is no hiding from the fact

31 Ev 327, para A.1.7 (Specialist Engineering Contractors' Group)

32 The Construction Umbrella Bodies comprise the Construction Confederation, Construction Industry Council, Construction Products Association, National Specialist Contractors' Council and Specialist Engineering Contractors' Group.

33 National Audit Office, *Improving Public Services through better construction*, HC 364-I, March 2005

34 Ev 218 (Construction Products Association)

that we have not moved anything like as quickly as the *Accelerating Change* report intended or we would have liked".[35] The Minister responsible for construction also accepted this view in evidence to us.[36] We will refer back to the industry's performance against its recent targets throughout this Report.

20. At the time the Committee was taking evidence for its inquiry, the *Accelerating Change* targets were near or at the end of their lifetime. The Construction Industry Council told us it felt "the momentum has to some extent been lost" and that "it is important to find new ways in which a new thrust of energy can be injected to ensure that we are driving ahead on […] some of the big policy challenges".[37] It is encouraging, then, that the Strategic Forum has recently launched a new set of targets to push forward the Egan agenda for the period up to 2012. These are set out in Table 2 below.

Table 2: The new Egan targets for the period 2008 to 2012

Key Objective	2010 Target	2012 Target
Procurement and integration (Chapter 4)	No specific interim target, but progress to 2012 target will be monitored on an annual basis	Different parts of the industry (clients, consultants, main contractors, specialist contractors,[38] and product manufacturers and suppliers) to be engaged in supply chains on 30% of construction projects and for 40% of their work to be conducted through integrated project teams
Client leadership (Chapter 2)	35% of client activity, by value, embraces the principles of the Clients' Commitments	60% of client activity, by value, embraces the principles of the Clients' Commitments
Design quality (Chapter 4)	10% increase year-on-year from 2007 levels in the proportion of projects using DQI in civic (custodial, police, fire, courts and other public projects), housing, and education projects	Continued 10% per annum growth from 2010 levels in both of the first two targets
	10% increase year-on-year in the number of times the projects above use DQI	
	80% of projects to achieve at least 50% demand-side representation at all workshops	No target
Commitment to people (Chapter 5)	Net increase of 230,000 qualified people recruited and trained in the industry compared with 2006	Net increase of 260,000 qualified people recruited and trained in the industry compared with 2006
	Apprenticeship completions of 13,500 in England, Wales and Scotland	Apprenticeship completions of 18,700 in England, Wales and Scotland
	Fully trained, qualified and competent workforce on all projects	Target to be established in the light of progress to 2010 target with greater focus on smaller contractors

35 *Ibid.*

36 Q 614 (BERR); Ev 327, para A.1.8 (Specialist Engineering Contractors' Group)

37 Q 3 (Construction Industry Council)

38 These targets only apply to those specialist contractors involved in mechanical and electrical work. For other the specialists the target is to establish by 2012 a mechanism for measuring integration in their sector.

Sustainability (Chapter 6)	No interim target	By 2012, a 50% reduction of construction, demolition and excavation waste to landfill compared to 2005
	No interim target	By 2012, a 15% reduction in carbon emissions from construction processes and associated transport compared to 2008 levels
	No interim target	25% of products used in construction projects to be from schemes recognised for responsible sourcing
	No interim target	Water usage in the manufacturing and construction phase reduced by 20% compared to 2008 usage
	No interim target	All construction projects in excess of £1m to have biodiversity surveys carried out and necessary actions instigated
Health and safety (Chapter 5)	Reduce the incidence rate of fatal and major injury accidents by 10% year-on-year from 2000 levels	10% reduction year-on-year in the incidence rate of fatal and major injuries from 2010 levels
	Reduce the incidence rate of cases of work-related ill health by 20% from 2000 levels	50% increase in projects offering a route to Occupational Health support from 2008 level
	No interim target	30% increase from 2007 level of micro-SME's and SME's taking up H&S training and education at an organisational level

Source: Strategic Forum for Construction

21. The targets are underpinned by the newly established Construction Commitments, listed in the Appendix to this Report. The Commitments set out widely agreed current best practice for construction industry and client behaviour. They are based on the 2012 Construction Commitments, which were developed to embed industry best practice in delivery of the various construction works for the 2012 Olympic Games in London. Throughout this Report we seek to identify how government can play its role in the achievement of these targets.

22. The new objectives for construction also reflect the acknowledged growing importance of sustainability in all aspects of the construction process. Although traditionally seen only within the context of environmental issues, sustainability is increasingly accepted as having both economic and social dimensions as well—often referred to as the 'triple bottom line'. The concept of economic sustainability involves achieving better value from construction, rather than simply concentrating on minimising short-term costs. Social sustainability embraces issues such as ensuring the industry's workforce is trained to its full potential, that it is treated with respect, and that it is representative of the wider diversity of the working population. In turn, environmental sustainability encompasses not only the construction process, but also the end-product—the built environment.[39] For the industry to be truly sustainable it must respond to each of these challenges. This is reflected in BERR's recently published *Strategy for Sustainable Construction*, and it is a key theme of our Report.

39 Ev 226, para 39 (Constructing Excellence)

23. Since its emergence from recession in the early 1990s, the construction industry has been undergoing a gradual process of reform, which we hope will not be jeopardised by the current economic downturn. The influential Latham and Egan reviews called for a radical new approach to construction—one in which client leadership is key; where there is greater collaborative working between firms within the construction supply chain; and where its workforce is fully skilled. There has been progress on all these fronts, but there is still the potential to achieve significantly more. As such, we commend the industry's decision to set new targets for taking forward the Egan agenda. We also welcome the fact that these targets reflect the need to promote economic, social and environmental sustainability in construction—the 'triple bottom line'—themes which underpin this Report.

Government responsibilities for construction

24. Broadly, the public sector interacts with the construction industry in one of three ways—as client to the sector; as its regulator; or as a provider of funding. Taking the first of these, as *client* and the largest single procurer of construction works, the public sector has a potentially powerful lever with which to change behaviour within its suppliers. This was a key theme in the evidence received by the Committee. Furthermore, as *client* to around a third of construction output, the public sector has the potential to influence performance in the private sector, since both are served by predominantly the same firms. Where it cannot do this, government has a second lever as *regulator* of the industry. For instance, it can ensure high standards in health and safety, and move towards the construction of more sustainable buildings. Regulation is also particularly important for instigating reform in the housing sector, where clients have neither the incentive nor the purchasing power to push for change in the industry. Finally, what government cannot influence through its role as client or regulator, it may do so through *direct financial support*, such as the provision of training and investment in research and development.

25. The fact that government wears different hats in its dealings with the industry is in turn reflected in the extent to which various parts of the public sector all have a strong policy interest in construction. For example, BERR has responsibility for areas such as construction legislation and payments practices, as well as overseeing implementation of the *Strategy for Sustainable Construction* and the Egan agenda. It also takes overall lead for central Government's relations with the industry.[40] However, the Office of Government Commerce (OGC), which sits within HM Treasury, has the lead on procurement and hence pushing for best practice in the public sector's role as client. Elsewhere, the Department for Communities and Local Government (CLG) is in charge of the Building Regulations and planning policy, and the Department for Environment, Food and Rural Affairs (DEFRA) is responsible for environmental regulation affecting the construction industry. Skills and training provision is now split between the Department for Children, Schools and Families (DCSF) and the Department for Innovation, Universities and Skills (DIUS), while health and safety regulation is in the remit of the Department for Work and Pensions and its Health and Safety Executive. The Department for Culture, Media and Sport (DCMS) also has a construction interest in areas such as design and architecture and

40 Ev 117, para 8 (BERR)

delivery of the 2012 Olympic Games. Various other bodies, such as the Commission for Architecture and the Built Environment (CABE), the Sustainable Development Commission, and the Construction Industry Training Board, also interface with the industry. Moreover, nearly all departments (for example, the Department of Transport), and every local authority, are clients to the construction sector. As such, they all have a role to play in implementing construction policy.

26. This complicated picture partly reflects the highly complex nature of the industry itself. However, we are not surprised that the Building Research Establishment (BRE) characterised the sheer number of public sector bodies with an interest in construction as "a completely fragmented mess".[41] This degree of fragmentation has several implications. First, both clients and suppliers have to monitor and interpret policies, standards, and regulations from a wide range of sources, some of which may overlap or contradict each other. The Federation of Master Builders said this meant "never being quite certain where you need to go" on different matters.[42] In turn, the Construction Industry Council told us that, despite the fact that BERR is the lead department on construction, it is hard for it "to ensure really effective integration across central Government".[43]

27. There is also difficulty in creating consistency in what constitutes best practice for public sector clients. As the industry's largest customer, government is in a powerful position—the Construction Industry Research and Information Association said, it needs to "have the wherewithal to behave as an intelligent client".[44] Although this is an area in which the OGC has done a lot of work—an issue which we turn to in the next Chapter—there is still concern about how best practice is actually enforced.[45] The dispersal of skills and expertise in construction across government inevitably and understandably makes the industry fear that its views and interests are not well represented. It also reduces "the government's ability to influence, communicate and partner effectively with the industry".[46]

28. Despite the widespread concern about the fragmentation of responsibility for construction, the Minister of State for Competitiveness was confident he was able to co-ordinate the machinery of government to deliver the best outcomes for the industry.[47] He highlighted the *Strategy for Sustainable Construction*, which has been endorsed by six separate departments, each of which is represented on a joint project board chaired by BERR.[48] Even so, the Minister has a broad portfolio. Construction is only one of 14 business sectors for which the post-holder currently has responsibility, alongside other policy areas including oversight of the Shareholder Executive, corporate social responsibility, business support simplification, and regional development. As one witness noted, while there is a Minister for Agriculture—a sector that comprises just 1% of the

41 Q 286 (Building Research Establishment)

42 Q 292 (Federation of Master Builders)

43 Q 9 (Construction Industry Council)

44 Q 274 (Construction Industry Research and Information Association)

45 Q 343 (National Specialist Contractors' Council)

46 Ev 311, para 1 (Royal Institution of Chartered Surveyors)

47 Q 578 (BERR)

48 Q 575; Ev 140, para 3 (BERR)

economy—construction must compete with many other sectors for ministerial attention, despite having far greater significance.[49] Though the Minister told us he spent a disproportionate amount of his time on construction issues, it is still understandable why the industry feels it does not receive the top-level attention that its importance merits.[50] This concern is exacerbated by the frequency of ministerial reshuffles affecting the post.

29. As client, regulator and provider of funding, government can influence the construction sector in many ways. The most important is the purchasing power it holds as procurer of almost a third of construction output. This is the main cross-cutting theme of our Report. However, its ability to make effective use of its power is severely hampered by the extent to which responsibility for different aspects of construction policy and procurement is dispersed across government.

A Chief Construction Officer

30. Many of our witnesses proposed a 'Minister for Construction' to solve the fragmentation problem.[51] While this would probably resolve the problem of raising the industry's profile, it would entail a significant reorganisation of the machinery of government if the minister were to have their own 'department for construction'. What is more, such a development would no doubt create issues of co-ordination in other areas of public policy. Some ministers do work in more than one department—for example, the Minister of Trade and Investment is based both in BERR and the Foreign and Commonwealth Office. However, we believe such overlapping responsibilities should be the exception rather than the rule and we are not convinced of the benefits of this approach for construction. Ministers are inevitably frequently moved around government. Indeed, the Minister of State for Competitiveness who gave evidence to us was moved to another department only a few days after his appearance before the Committee, after only a little over six months in post. The construction brief is broad and complex, and is one that requires a long-term strategic approach. This would not be best served by a revolving door of ministers on their way either up or down the political career ladder.

31. Nevertheless, we do understand and support the more general view put to us that government needs some form of 'champion' for the sector.[52] We believe this is best provided at official rather than ministerial level. We have given this 'champion' the title of Chief Construction Officer (CCO). The role would be to co-ordinate and engage with all parts of the public sector that have a policy or procurement interest in construction, both at central and local government level. Amongst others things, the Chief Construction Officer could:

49 Q 286 (Building Research Establishment)

50 Q 573 (BERR)

51 Qq 292 (Federation of Master Builders) and 342 (National Specialist Contractors' Council); Ev 232, para 29 (Construction Industry Council—East Midlands), Ev 295 (NG Bailey), Ev 311 (Royal Institution of Chartered Surveyors) and Ev 255 (Federation of Master Builders)

52 Qq 274 (Construction Industry Research and Information Association), 286 (Building Research Establishment), 341 (National Specialist Contractors' Council) and 344 (Specialist Engineering Contractors' Group); Ev 238, para 5.2 (ConstructionSkills)

- Enforce the adoption of best practice in procurement across the public sector as defined by the Construction Commitments;
- Function as the single main point of engagement between government and the construction industry;
- Oversee implementation of the *Strategy for Sustainable Construction* and government's contribution to meeting the new *Accelerating Change* targets;
- Improve the image of the construction industry generally;
- Ensure regulatory consistency across departments; and
- Seek to co-ordinate, as far as possible, the timing of major public sector construction programmes or projects to facilitate planning by the industry.

32. All but the last of these tasks are currently undertaken by a staff of roughly 16 at BERR's Construction Sector Unit (CSU) in addition to the OGC. We envisage that the Chief Construction Officer would have operational responsibility for construction in both organisations. The post-holder would also be actively involved in policy and regulation development in other Whitehall departments with a construction interest. He or she would be adequately resourced to enable the carrying out of the functions listed above.

33. The Chief Construction Officer would be a senior official equivalent in standing to the Government's Chief Scientific Adviser or the Chief Executive of UK Trade & Investment. Indeed, these posts offer the precedent for our proposal. Like them, the post-holder would probably not have begun as a career civil servant. It would be essential for him or her to have an in-depth knowledge of how the industry functions, wider private sector experience, as well as an understanding of the workings of the public sector. This would be necessary for them to command the respect and trust of the industry and to have sufficient influence within government. They would also provide the long-term continuity that a ministerial post will never be able to provide. We believe this would significantly address the concerns of the construction industry about fragmentation without requiring a significant reorganisation of the machinery of government.

34. To overcome the problem of the fragmentation of construction policy and procurement across government, we recommend the creation of the post of Chief Construction Officer. Acting at a senior level as 'champion' of the sector, the post-holder would provide a single point of engagement between the industry and the public sector, having operational involvement in policy and regulatory matters across departments. He or she would hold both private and public sector experience to command the respect of the industry and have sufficient clout within government. Throughout this Report, we highlight areas where a Chief Construction Officer could improve the current situation.

2 The role of the client

35. Sir Michael Latham told us that, in the end: "clients […] drive best practice".[53] Client leadership is one of the six pillars of the new Construction Commitments. In this chapter we look at the different types of client served by the industry, the features of a good client, and the support to increase clients' effectiveness. As the role of government as client is one of the cross-cutting themes of this Report, we go on to look specifically at the work of the Office of Government Commerce (OGC) in developing and implementing best practice in construction procurement across the public sector.

Frequent and infrequent clients

36. There is a common assumption that the public sector cannot manage large-scale procurement because it is not subject to the same market pressures as the private sector. However, the evidence we received showed clearly that it is a false dichotomy to differentiate between the public and private sectors on their performance as construction clients. Rather, the key distinction is whether a client is frequent or infrequent; in other words, whether a client is experienced or inexperienced.[54]

37. Frequent clients are responsible for the greater part of the value of construction work—about 60% by value. However, at any one time about 95% of the industry's customers are one-off or occasional clients.[55] By their nature they have little or no experience of working with the construction industry. As such, they are less likely to understand how the sector operates and the importance of their role in ensuring success. This greatly increases the risk of a project going off course—both the Scottish Parliament and Wembley Stadium, which suffered massive delays and cost overruns, were commissioned by infrequent clients. The nature of occasional customers varies enormously with, for example, the Olympic Delivery Authority at one end of the spectrum, down to the procurement of a new school by a local authority at the other end. (Home-buyers may also be categorised as infrequent clients, but they are rarely tied to the purchase of a project before it has been built.)

38. Organisations with a rolling programme of construction activity have an incentive to invest in their capability as client.[56] They will tend to establish arrangements that allow them to work with similar teams over time.[57] One of the principal ways for frequent construction clients to establish longer-term relationships with their suppliers is through 'framework agreements'. Here, contractors (initially selected by competition) are on a 'framework' for a set time, during which they are assigned a number of construction projects in succession. This way, clients are able to save on the procurement costs of tendering for projects separately. They can also benefit from suppliers being able to learn from projects early on in the framework arrangement, and deliver later projects faster and

53 Q 165 (ConstructionSkills)

54 Qq 52 (Construction Confederation) and 236 (Constructing Excellence)

55 Qq 441 and 443 (Construction Clients' Group) and Ev 338, para 1.18 (Specialist Engineering Contractors' Group)

56 Q 440 (Construction Clients' Group)

57 Q 236 (Constructing Excellence)

to a higher standard.[58] The contractor has the security of long-term work, which also means they are able to invest in their own capacity to deliver with greater confidence, for instance, through the provision of training for their workforce. Hence, both the client and the supplier can benefit in terms of cost, delivery time and the quality of the end-product. However, framework arrangements are not a panacea. They need to be actively managed by the client to impose the commercial pressure, which would usually come from participating firms having to tender for every project. It is important that companies face the threat of being taken out of a framework if they perform poorly.

39. The use of framework agreements began in the private sector, where they have demonstrated some impressive results. In some cases clients have reduced their bidding costs by up to a third.[59] Tesco more than halved the delivery time of its projects from 40 weeks to 18.[60] In turn, many parts of the public sector, such as Defence Estates and the Highways Agency, have begun to adopt a similar approach. Constructing Excellence told us that many local authorities also now have frameworks in place. Birmingham City Council, for instance, has saved £8 million per annum in tendering costs.[61]

40. The public sector is catching up with the private sector in the use of framework agreements, though there remains scope for improvement. Freestanding regional frameworks are an innovative form of frameworks, developed by the public sector. They are run by third parties, such as the regional development agencies, rather than being managed by clients who instead pay for access. These have the potential to be used by those parts of the public sector which are not frequent clients, and take-up should be improved. Moreover, to get the full benefits of framework arrangements, contracts need to be monitored and used properly. Constructing Excellence told us there could be "huge improvement in the way in which framework contracts are managed downstream".[62] While clients are benefiting from reduced tendering costs, they are not performance managing the frameworks rigorously enough to accrue their wider benefits.[63] This problem persists despite the availability of best practice guidance and support from a range of sources, including Constructing Excellence through its Local Government Task Force.

41. Success in construction projects is driven by the knowledge and skills of the client. Whether a construction client is frequent or infrequent is more important than whether they function in the private or public sector. Frequent clients are more likely to have invested in their capacity to fulfil their role, thus delivering benefits both for themselves and their contractors. Infrequent or inexperienced clients are less likely to have an understanding of the construction sector and the importance of their client role. This poses greater risks for the delivery of their projects.

42. Increasingly, framework agreements are being used to develop longer-term relationships between customers and their suppliers. They can improve project delivery

58 Q 225 (Constructing Excellence)

59 Ev 210, para 20 (Construction Confederation, Construction Industry Council and Construction Products Association)

60 Q 445 (Construction Clients' Group)

61 Q 444 (Construction Clients' Group)

62 Q 238 (Constructing Excellence)

63 Qq 237 (Constructing Excellence) and 450 (Construction Clients' Group)

in terms of time, cost and quality. However, many public sector clients are not yet managing their frameworks rigorously enough to achieve all their potential benefits. One of the functions of the Chief Construction Officer, in conjunction with the Department for Communities and Local Government and others, should be to ensure wider use and more effective management of frameworks, where they are appropriate, both at central and local government level.

Features of a good client

43. Frequent clients will not always achieve the best results, while infrequent clients are not inevitably doomed to failure. Arsenal Football Club was a one-off client for the Emirates Stadium, which was delivered on time and within budget to high acclaim.[64] The distinction between experienced and inexperienced clients determines the risks associated with project delivery, but the defining characteristics of what makes a 'good' client are the same regardless of their experience.

44. The industry highlighted several factors that define a 'good' client. First, the customer had to be clear and consistent about its needs from the outset. The success of the Emirates Stadium was attributed in large part to the client having had a clear understanding of what they wanted.[65] In their memorandum, Constructing Excellence noted "most big projects which have suffered in recent times have failed in the early briefing phase".[66] There are two aspects to this. First, as pointed out by the Commission for Architecture and the Built Environment (CABE), is the fact that the client's objective for its building project determines strongly its initial design. For instance, a prison with the primary purpose of rehabilitation would be designed in a very different way to one whose main objective was containment and security.[67] Those objectives need to be clear. Secondly, a lack of clarity in the briefing early on can also lead to changes in project scope later, which in turn can impact heavily on overall costs and delivery time. It is worth noting, however, that the onus here does not rest on the client alone. The industry itself should help the client ask the right questions in the first place during the briefing process.[68]

45. Clients also need to understand that the successful delivery of a project is not necessarily guaranteed by awarding the contract to the lowest bidder. Here, an appreciation of what offers best value to the client in the long term is likely to result in a project that meets fully the customer's needs both in terms of the end-product and its operation over its lifetime.[69] This concept of 'whole life value' is one we look at in more depth in Chapter 4.

46. The importance of client leadership does not end once the initial briefing is complete and a main contractor in place. A good client continues to be actively involved in the project as it proceeds, working closely with the whole project team. This does not mean the client should repeatedly tweak the scope of the work. Instead they should pay close

64 Q 465 (Construction Clients' Group) and Ev 223, para 16 (Constructing Excellence)

65 Qq 465 (Construction Clients' Group) and 498 (BAA)

66 Ev 223, para 16 (Constructing Excellence)

67 Q 235 (Commission for Architecture and the Built Environment)

68 Q 248 (Constructing Excellence)

69 Qq 235 (Commission for Architecture and the Built Environment) and 345 (National Specialist Contractors' Council)

attention to the risks associated with the project, and allocate ownership of these to the parties that are best-placed to manage them.[70] This avoids the mutual recriminations and delay that often ensue later on if a problem occurs. Ongoing client engagement is also important for ensuring high standards of health and safety, and the promotion of training—issues, which we explore in Chapter 5.

The Construction Clients' Charter

47. Recent attempts to reform the industry have included work to define the characteristics of a good client, and to disseminate this information. A part of this has been the development of the Construction Clients' Charter. Signatories to the Charter are expected to exhibit a number of best practice behaviours, defined under the broad themes of leadership and a focus on the client; working in integrated teams; whole life quality; and having a respect for people. The *Accelerating Change* initiative set a target for 20% of client activity by value to embrace the principles of the Charter by 2004, and 50% to do so by 2007. The industry's overarching Strategic Forum told us it had been difficult to collect data on the value of construction activity to assess performance against the target.[71] However, so far only about 300 parties have signed up to the Charter, and the vast majority of those are housing associations, which were mandated to do so by the Housing Corporation.[72] Only one central government client is a signatory and just four local authorities. The sponsors of the Charter are the Construction Clients' Group (CCG)—a membership forum affiliated to Constructing Excellence. It told us the level of take-up had been "hugely disappointing", and that this reflected a perception that the process was too bureaucratic and that there were high barriers to usage.[73]

48. Following a review of its effectiveness, the CCG intends to revise the Charter to make it more relevant. It will reflect the six key themes of the Construction Commitments, namely procurement and integration; client leadership; design quality; commitment to people; sustainability; and health and safety. The CCG hopes these new Clients' Commitments will be more relevant and accessible to all clients, frequent or occasional.[74] In support of this, the new industry targets include one for 35% of client activity, by value, to embrace the principles of the Clients' Commitments by 2010, and for 60% to do so by 2012.

49. The features of a 'good' client are the same whether they are frequent or occasional customers to the industry. They include setting clear and consistent objectives, appreciating the importance of value rather than cost alone, and active involvement throughout the project to manage risk. Following its extremely poor take-up, we welcome the industry's intention to revise the Construction Clients' Charter to reflect the new Construction Commitments. This should provide a comprehensive outline of what being a 'good' client entails. Once in place, we believe the Government should lead take-up of the new Clients' Commitments and contribute to the Strategic Forum's new target for client leadership by requiring all major public sector procurers of

70 Q 345 (National Specialist Contractors' Council)

71 Ev 218 (Construction Products Association)

72 Qq 480 and 481 (Construction Clients' Group)

73 Q 484 (Construction Clients' Group)

74 Q 485 (Construction Clients' Group)

construction works in central Government to become signatories within the next two years. We expect local authorities to make a similar commitment, and look to the Local Government Association to encourage this, recognising the benefits this would bring to those authorities and their council taxpayers.

Helping occasional clients

50. The CCG told us "it is critical that clients spend time in training themselves to develop their capability to manage the construction process".[75] Frequent procurers are more likely to already have an awareness of this need, although even oft-cited examples of client best practice such as the Highways Agency have shown there is still significant room for improvement in their performance.[76] Nevertheless, one-off clients need to benefit from the learning of more experienced organisations. This is one of the primary functions of the CCG, although it does not have the resources for significant hands-on engagement with occasional clients. CABE have also undertaken work in this area, with its *Creating excellent buildings* guidance for clients.

51. However, best practice information and guidance for occasional construction clients cannot be put to effective use unless clients have access to the programme and risk management skills that construction procurement requires. As the Institution of Civil Engineers put it: "without these skills government will struggle to set realistic budgets and timeframes, and to manage projects effectively".[77] While large spending departments need, and can afford, a permanent pool of procurement staff, smaller departments and many local authorities do not have access to such resources.[78]

52. There are ways in which this problem can be addressed. One example is the model used by Partnerships for Schools, the body responsible for co-ordinating delivery of the Government's secondary school renewal programme, Building Schools for the Future. It provides a centralised source of expertise that local government clients can draw on. It also acts as a means of capturing lessons learnt and improving processes through, for example, standardised contracts and products and more efficient design.[79] Despite this and other initiatives, such as NHS ProCure21, there remains a legitimate sense of frustration within the construction industry that the opportunities for such joined-up approaches are still not being fully realised and that procurement skills are spread too thinly across the public sector.[80]

53. The 2002 *Accelerating Change* report recommended that inexperienced clients should have some form of independent client advice to help them navigate the early stages of the procurement process in particular, and all aspects of that process if necessary. It considered that such mentoring would need to be free from vested interest as well as being in accordance with the principles of the Egan agenda. The report, however, was not clear as to

75 Q 440 (Construction Clients' Group)

76 Ev 275, para 5.8 (Institution of Civil Engineers)

77 *Ibid.*

78 Ev 182, para 20 (Confederation of British Industry)

79 Ev 210, para 21 (Construction Confederation, Construction Industry Council and Construction Products Association)

80 Ev 295 (NG Bailey) and Ev 279, para 11.5 (Institution of Civil Engineers)

who would fund this initiative or whether it was meant for both private and public sector clients. The Specialist Engineering Contractors' Group noted that the proposal has not been widely implemented.[81] Surprisingly, construction client skills do not currently form part of the strategy for the sector skills council, ConstructionSkills.[82] Rather, the Office of Government Commerce has overarching responsibility for developing public sector procurement skills. We look at this organisation in more detail in the next section.

54. Occasional clients in the public sector who lack sufficient procurement and construction management skills should be able to draw on skills from elsewhere. The centralised expertise provided by Partnership for Schools shows this can be done. The Chief Construction Officer, in conjunction with the Office of Government Commerce, should establish where such skills gaps exist across the public sector. Where deficiencies are found, a process should be put in place to address the issue, involving the sector skills council, ConstructionSkills, where appropriate.

The Office of Government Commerce

55. The OGC is an office of HM Treasury. It was created in 1999, following a review of civil procurement in central government by Sir Peter Gershon. It is responsible for improving standards and capability in procurement, which ranges from the buying of commodities and services, to the delivery of major capital projects.[83] The Office has been active in developing best practice in the public sector procurement of construction work throughout its existence. In this section we look at its main initiatives and achievements of recent years.

The OGC Gateway Process

56. In 2001 the OGC launched its Gateway Process for government procurement. The Process defines various review points—known as 'Gates'—during the lifecycle of a project:

- Development of a business case (Gate 1);
- Setting up of a procurement strategy (Gate 2);
- Investment decision (Gate 3);
- Award and implementation of a contract (Gate 4); and
- Benefits evaluation (Gate 5).

57. Where the Process applies to a programme of activity rather than a single project, there is also an additional Gate 0, which involves a strategic assessment of the whole programme. At each of the Gates, a project is subject to an independent review by experienced practitioners to assess whether the project is ready to proceed to the next stage. At the end of each review, projects receive a 'red', 'amber' or 'green' status. Here, 'red' signifies the

81 Ev 319, para 1.13 (Specialist Engineering Contractors' Group)

82 Q 453 (Construction Clients' Group)

83 www.ogc.gov.uk

need for remedial action to be undertaken immediately if a project is to succeed—it does not mean that the project should be stopped. An 'amber' status means that certain recommendations should be acted on by the time of the next review, while 'green' signifies that the project is on target to succeed. Two successive 'red' reviews trigger a letter from the OGC's Chief Executive to the permanent secretary of the department responsible.

58. The Gateway Process is mandatory for all medium or high risk procurement of goods, services and construction by government departments and their agencies. Perhaps surprisingly, the OGC does not, however, enforce its use. Instead it is for senior responsible owners of projects to request reviews at the various gate stages. In 2005, the National Audit Office reported some concerns about the take-up of Gateway Reviews, particularly below departmental level where some agencies and non-departmental public bodies were sometimes completely unaware of its existence. It also cited departments' perceptions that in some cases review teams did not possess the requisite skills and experience to add value.[84] At the time, the OGC stated its intention to address these concerns. The Office told us the Gateway Process is "well respected" and that departments had now used it on 368 occasions in 182 programmes.[85] Nevertheless, three years after the NAO's report, Constructing Excellence told us they were concerned not only by the small number of Gateway Reviews conducted for construction projects, but also by the way the process had not become embedded in public sector practice.

59. The Office of Government Commerce's Gateway Process offers a means for public sector clients to assess and monitor their procurement performance for construction projects and programmes. We are disappointed by the low take-up of the Process. All public sector construction commissioners should be aware of it. The effectiveness of the scheme should be evaluated urgently, and action taken if the review teams lack necessary expertise. Furthermore, and while the responsibility for initiating reviews must rest with responsible senior officers who will be able to assess when projects are ready, we hope the practicability of giving the OGC power to enforce its use will be explored.

Achieving Excellence in Construction

60. In 1998 HM Treasury commissioned the University of Bath to examine government's performance as client to the construction sector. The report found failings in six key areas:

- poor management, evident in a lack of client leadership;
- a risk averse culture, stifling innovation;
- a lack of integration in the supply chain;
- poor project flow, caused by financial and decision-making delays;
- an approach to procurement that was not orientated to value-for-money; and

84 National Audit Office, *Improving Public Services through better construction*, HC 364, Session 2004–05, March 2005

85 Q 602 (Office of Government Commerce)

- misinterpretations of the need for public accountability, such as a fear of longer-term relationships or partnering with suppliers.[86]

61. A year later HM Treasury estimated that more than 50% of contracts went over their pre-tender budget and 66% exceeded their time estimates. As a result of both these sets of findings, and seeing both the potential for significant performance improvement and accompanying cost savings, the Department launched the *Achieving Excellence in Construction* initiative. Conceived originally as a three-year programme, *Achieving Excellence* set targets for improvement across departments in the areas of management, performance measurement, the standardisation of processes, and integrated working—reflecting the agenda set by the first Egan report, *Rethinking Construction*.

62. On the back of encouraging progress during the first three years, and following the publication of the second Egan report *Accelerating Change* in 2002, the OGC launched a new set of *Achieving Excellence* targets in 2003:

- By March 2005, 70% by volume, of construction projects reaching the benefits evaluation stage (Gate 5 of OGC's Gateway Review process) in the period 1 April 2003 to 31 March 2005 to be delivered:
    - On time;
    - Within budget;
    - To exceed customer and stakeholder expectations; and
    - With zero defects.
- By March 2005, for each key sector to reduce the average time period from the start of procurement (Gate 2) to award of contract (Gate 3) by 25% for construction projects taking over a year between Gate 2 and Gate 3, and 15% for all other construction projects.

63. Responsibility for delivery of the strategic targets rested with departments themselves, and applied to any construction project over £1 million in value. To support their endeavours, the OGC published a set of *Procurement Guides*. These have been added to over time and now comprise three core and eight supporting guides covering all aspects of the construction procurement process, including whole-life costing, health and safety, design quality, and sustainability. The OGC also put in place some systems to monitor and report progress, which it continues to do. The most recent results for the first strategic target are summarised in Table 3 below. This shows that departments fell short of the *Achieving Excellence* targets in three out of four categories. In its 2005 report the National Audit Office concluded that the Government had made significant progress since 1999 when only 25% of projects were delivered within budget and 34% on time.[87] It stated that the implementation of the *Achieving Excellence* best practice principles played an important part in this improved performance.

86 Office of Government Commerce, *Achieving Excellence in Construction Procurement Guide: Initiative into action*

87 National Audit Office, *Improving Public Services through better construction*, HC 364-I, Session 2004–05, March 2005

Table 3: Performance under the first strategic target of *Achieving Excellence in Construction*

By March 2005, 70% of construction projects reaching Gate 5 in the previous 2 years to be delivered:	Achieving Excellence targets	Project Performance				
		April 2003 to March 2005 (the target period)	April 2005 to Sept 2005	Oct 2005 to March 2006	April 2006 to Sept 2006	Oct 2006 to March 2007
On time	70%	65%	56%	45%	74%	54%
Within budget	70%	61%	37%	60%	70%	57%
To exceed expectations	70%	70%	56%	77%	83%	75%
With zero defects	70%	60%	43%	57%	68%	56%

Source: Office of Government Commerce, Information Note 2/2007

64. However, two concerns arise from the OGC's reporting of performance against the strategic targets. The first is that the Office did not collect data to measure progress against the second strategic target to reduce the period of time between Gate 2 and Gate 3. Second, is the lack of any continued improvement in performance since 2005 for the areas defined within the first target. Figures in Table 3 show a wide variation between half-year periods. While such comparisons must be treated with caution because of differences in sample size, it seems clear for the performance measures of time, cost and defects, that at best there has been no further improvement in the two years since the end of the strategic targets. More likely it seems that departments' performance has actually deteriorated.

65. In its *Information Note*, the OGC states that it is investigating the underlying reasons for the downward trends in performance through one-to-one meetings with participating departments. It is worth emphasising here that the OGC does not have powers to enforce or police usage of the *Achieving Excellence* best practice principles. Instead, its staff focus primarily on monitoring progress and disseminating best practice. Indeed, even if the Office did have these powers, the four people the organisation has dedicated to construction policy would not be sufficient to enforce comprehensive take-up. As the Construction Clients' Group put it, "they have the guidance for public sector clients to follow, however, they do not typically have the resource to turn that into action".[88]

66. The Office of Government Commerce has used *Achieving Excellence in Construction* as its primary means of driving best practice in construction procurement across the public sector for almost a decade. The initiative played a key role in raising performance during its early days. However, the most recent strategic targets for the initiative expired more than three years ago. Departments' performance since 2005 suggests there has been no further progress on the delivery of public sector projects on time, within budget and with zero defects. This is not surprising given the OGC has no powers to enforce use of its best practice guidance and there are only four people in post to support the scheme. In short, *Achieving Excellence* is now more accurately realising mediocrity.

88 Q 459 (Construction Clients' Group)

67. In the wake of the launch of the new industry-wide Construction Commitments, we recommend the Government reinvigorates the *Achieving Excellence* initiative by establishing new targets for public sector construction project performance. The OGC should also put in place performance measurement systems that collect data against all of these targets—not just some.

The Common Minimum Standards

68. In a bid to improve consistency in construction procurement across the public sector, in early 2006 the OGC launched its Common Minimum Standards. These set basic mandatory requirements for the procurement of construction works at all levels of government. The Standards themselves represented a consolidation of existing best practice rather than additional requirements. The first and 'General Standard' requires that all construction projects are carried out in accordance with the best practice principles set out in the *Achieving Excellence* initiative. Deviations from this best practice are only permissible if there are demonstrable whole-life value benefits to be achieved.[89] The OGC, in conjunction with the Local Government Task Force, has since also developed a specific version of the Standards to reflect local authority language and practice. These were published in May 2006.

69. At the time of their launch the Standards were generally seen to be "comprehensive, practical and achievable, as well as cost effective" by all those departments that had taken part in their consultation.[90] Yet, in its evidence to us the industry was critical of the extent to which parts of the public sector were actually enforcing their use. For example, the Specialist Engineering Contractors' Group said "if you take local authority work […] there is no indication that those minimum standards are applying or will be".[91] The Construction Clients' Group agreed.[92] Part of the reason for this is simply a lack of awareness of the Standards in the first place. Working with the Local Government Task Force, the OGC sought to tackle this issue by holding a number of 'road shows' around the country during 2007 aimed at familiarising local authorities with the Standards.

70. As with the *Achieving Excellence* guidance, which underpins the Common Minimum Standards, the OGC does not have the power to police use of the Standards by public sector clients, nor does it collect comprehensive data to monitor compliance. Again, this largely reflects the resources the Office has at its disposal. The SEC Group called for government funding of all construction projects to be contingent on compliance with the Standards.[93] More generally, Constructing Excellence told us it felt the Standards needed now to become "more outcome-orientated rather than prescriptive inputs".[94] In light of the recent launch of the Construction Commitments and the expectation of a new set of

89 Office of Government Commerce, *Common Minimum Standards for the Procurement of Built Environments in the Public Sector*, 2005

90 *Ibid.*

91 Q 339 (Specialist Engineering Contractors' Group)

92 Q 459 (Construction Clients' Group)

93 Ev 319, para 1.8 and 1.9 (Specialist Engineering Contractors' Group)

94 Ev 224, para 23 and Ev 225, para 25 (Constructing Excellence)

Clients' Commitments, it may be time to re-visit and update the Standards to make them more consistent with the principles now expected by the industry.

71. The Office of Government Commerce has set Common Minimum Standards for construction procurement, based on the *Achieving Excellence in Construction* guidance, which are mandatory across the public sector. Yet anecdotal evidence suggests their implementation, particularly at local authority level, has been patchy, due in large part to a lack of awareness. We believe the Government should now update the Standards to reflect the principles set out in the new Construction Commitments. The OGC should also work to promote greater awareness of the Standards; to measure their use across the public sector; and to enforce compliance by central government departments and their agencies. Local authorities, with the support of the Local Government Association, should also comply with the Standards in the interests of the communities they serve.

The Public Sector Construction Clients' Forum

72. In December 2005, the Government established the Public Sector Construction Clients' Forum (PSCCF), hosted by the OGC. It consists of senior officials from various departments and government agencies, together with industry representatives, including the Strategic Forum and Constructing Excellence, and meets four times a year. The PSCCF's purpose is to strengthen the leadership and co-ordination of public sector construction activity. It was set up in response to a recommendation by the National Audit Office report, *Improving Public Services through better construction*, which highlighted the fact that there is no 'single voice' representing government clients.[95] The work of the Forum is supported by a number of limited-life working groups that are developing proposals on specific themes, including: public sector demand and industry capacity to deliver; fair payment; and improved embedding of best practice. The outputs of some of these working groups are discussed in more detail elsewhere in this Report. **We welcome the establishment of the Public Sector Construction Clients' Forum and its work to support the co-ordination of construction activity and initiatives across government. We urge all involved in its work to regard it as a permanent feature of the public sector's engagement with the construction sector.**

Transforming government procurement

73. In January 2007 the Government set out its vision for the future of the OGC with its *Transforming government procurement* (TPG) initiative.[96] There are various aspects to TPG, but at its heart is a move away from an emphasis on producing best practice guidance towards putting that guidance to use within departments.[97] To achieve this the OGC is becoming a "smaller, more focused, high calibre organisation".[98] It will have stronger powers to monitor departments' performance and demand collaboration when buying

95 National Audit Office, *Improving Public Services through better construction*, HC 364, Session 2004–05, March 2005

96 Ev 128, Annex C (BERR)

97 Q 606 (Office of Government Commerce)

98 Ev 128, Annex C (BERR)

common goods and services. In support of this new approach, the OGC has made changes to the Government Procurement Service (GPS), which brings together procurement specialists working across central government. The Chief Executive of the OGC will head a "reinvigorated" GPS that will more closely resemble the established Government Economic Service and Government Statistical Service, which have their own graduate entry routes.[99] The GPS will also be more flexible, concentrating resources where they can have the most impact, and will draw in private sector experience through secondment opportunities.

74. Two other important aspects of *Transforming government procurement* are the introduction of Procurement Capability Reviews (PCRs) and the setting up of a Major Projects Review Group. PCRs are meant to assess how far departments' procurement meets the standards set by the OGC, and make recommendations for improving performance where necessary. They involve the deployment of a small team of experts, engaging intensively with departments over a short period, looking at all aspects of their procurement, including construction. The Office aims to complete 18 reviews of government departments by the end of 2008. It has already published the first tranche of these, highlighting some serious concerns, particularly for the Department for Communities and Local Government.

75. The Major Projects Review Group (MPRG), which is chaired by HM Treasury, is a panel of commercial experts from across government whose role is to "provide advice on the deliverability, value for money and affordability of the largest and most complex procurement projects".[100] The points at which the MPRG scrutinises projects align closely with Gates 1, 2 and 3 of the OGC's Gateway Process. The aim of the Group is to provide additional value over and above that added by the Gateway Reviews. Although its processes are still developing, HM Treasury reports that departments have welcomed the additional scrutiny provided by the MPRG. The Group is not focused solely on construction projects, although these inevitably form a significant part of its workload. To date it has been involved in a range of projects, including Crossrail, the Nuclear Decommissioning Authority's competition for Sellafield, and the Pandemic Influenza Preparedness Programme.[101]

76. While we support the change of emphasis brought by *Transforming government procurement* towards wider implementation of the OGC's best practice guidance, we have some doubts about its ability to achieve this end. First and foremost is our concern that the Office has had its staffing reduced from around 400-500 in 2005 to approximately 250 now. Despite this, the OGC told us "it is very much the size and scale it needs to be to do the task it is being set".[102] We find this hard to believe. Even if the new strategy entails being more focused and higher calibre, the overall ability of the Office to do its job can only have been diminished by such a reduction in its resources—not to mention the impact that changes will have had on the morale of those staff that are left. The state puts considerable resources into scrutiny, the spreading of best practice, and external review. For example,

99 *Ibid.*

100 HM Treasury, *Infrastructure procurement: delivering long-term value*, March 2008

101 *Ibid.*

102 Q 606 (Office of Government Commerce)

the Audit Commission has a staff of over 2,000 and the National Audit Office some 850. The public sector spends some £125 billion a year purchasing goods and services. It would be logical to increase the resources which go into preventing procurement problems from arising at the outset and so reduce those that go into monitoring and dealing with failure.

77. Our second fear, voiced throughout this section of our Report, is the ability of the OGC to police the use of its best practice tools and to ensure departments respond to recommendations made through its Procurement Capability Reviews. It is not clear from the *Transforming government procurement* initiative whether the Office will have the powers it needs to address this issue. This is a significant challenge for the OGC if it is improve procurement across the public sector.

78. We welcome the *Transforming government procurement* initiative and in particular the OGC's new focus on implementing best practice across the public sector. We are, however, seriously concerned that the Office has been provided with neither the resources nor the powers it needs to achieve this task. We recommend that the OGC's staffing levels are reviewed. We also recommend that the Government reviews the means by which the Office can better perform the role of 'enforcer' of good practice across the public sector. Several potential institutional levers exist already for it to achieve this, but more may be needed. It should involve taking advantage of its position as an office of HM Treasury. It should also include greater engagement at permanent secretary or ministerial level with other government departments.

3 Increasing capacity

79. Since the end of the recession in the 1990s the sector has had near continuous growth in capacity, due in part to the ability to respond to demand and its openness to migrant labour. In this chapter we look at the recent expansion of the construction industry, and estimates for its future growth. We then look at the ways in which the industry's capacity has expanded in recent years, its ability to continue doing so, and the implications of any constraints for construction price inflation. Finally, we consider what role government can play as client to the sector to help it plan to meet future demands.

Recent and predicted growth

80. Since 1995, the industry has expanded in every year bar one. It has grown by 20% in the last five years alone—a performance the Construction Confederation described as "unparalleled".[103] This move away from the shorter-term boom and bust cycles that characterised the sector in previous decades has been underpinned by a combination of continuous growth in the private sector and large increases in public sector capital investment. Overall, new publicly-funded construction work, including Private Finance Initiative projects, has risen by around 50% since 1999.[104]

81. At the time we launched our inquiry, many commentators were predicting the construction sector would maintain its recent growth in the years ahead. The expectation was that any drop in public sector construction output would be offset by continued growth in the private sector.[105] However, in the wake of the US sub-prime mortgage market crisis, this looks too hopeful. The Royal Institution of Chartered Surveyors recently recorded a slowdown in reported workloads, particularly in the home-building sector.[106] Similarly, the latest government statistics show a 1% fall in new private housing work in 2007, compared to 2006. This was, however, offset by increases in output in other areas of the construction industry with, for example, private commercial work 13% higher than in 2006. This meant that overall, the sector's output grew by 2% in 2007, and its total employment was also up by 5%.[107]

82. It is difficult to predict how the construction sector will fare in 2008 and 2009. The latest Construction Skills Network report forecasts a decline or little change in activity for much of the private sector. However, it anticipates this will be partly offset by growth in public sector and infrastructure output.[108] Non-housing public expenditure on construction fell in recent years, though it is now expected to increase by 3.7% per annum up to 2012, due largely to the Government's Building Schools for the Future programme.

103 Qq 140 (ConstructionSkills) and 586 (BERR); Ev 208, para 4 (Construction Confederation, Construction Industry Council and Construction Products Association)

104 Ev 208, para 5 (Construction Confederation, Construction Industry Council and Construction Products Association)

105 Unite—the union, *Sustainable Solutions for the Long-Term Supply of Skilled Operatives to the UK Construction Industry*, 2007

106 BBC News Online, *Housing decline hits construction*, 31 March 2008

107 National Statistics, *Output and employment in the construction industry 4th quarter 2007*, 7 March 2008

108 Construction Skills Network, *Blueprint for UK Construction Skills 2008 to 2012*, March 2008

Public sector housing output is also set to grow by 2.9% per annum as the Housing Corporation works towards its target to produce 45,000 social housing units annually by 2010–11.[109]

83. Expenditure on infrastructure is expected to outpace the rest of the industry with annual growth of 5.7% in the period up to 2012. Whilst the Olympics is perhaps the most high-profile construction project in the short to medium term (but still accounting only for 5% of construction work in the South East during this period), there are also a number of other anticipated infrastructure projects.[110] These include the East London Line and Docklands Light Railway extensions; railway station redevelopment at London Victoria, Reading and Birmingham; the M25 widening; Heathrow Terminal East; Crossrail; and the Thames Gateway regeneration scheme. Nor is this growth in activity confined to the South. Infrastructure work in Scotland is expected to expand by 6% a year between now and 2011, whilst a new programme of investment in Northern Ireland will see expenditure of £14.4 billion in the next seven years.[111]

84. The construction industry has enjoyed a period of sustained growth for over a decade, in sharp contrast to the cycles typical of much of the post-war era. Construction output in parts of the industry, particularly house-building, is experiencing a sharp downturn in the wake of the fall-out from the sub-prime mortgage market crisis. While public sector expenditure is always subject to a degree of political uncertainty, in the coming years the industry currently expects to benefit from rising infrastructure investment and greater spending in areas such as social housing and education.

Sources of capacity growth

85. The industry has increased its capacity in several different ways. The Construction Products Association told us its members had augmented their manufacturing capacity by 10% in the past two years, and were expecting to add the same again in the next couple of years.[112] Capacity and productivity have also been increased through improved construction methods such as greater use of IT, offsite manufacture, prefabrication, and automation.[113] This has resulted in some increase in capacity, but has been limited by the industry's traditional aversion to new techniques. We explore the issue of innovation fully in Chapter 7. Innovation aside, the most important determinants of the industry's capacity to respond to demand in recent years have been the supply of skilled labour and the planning system.

Labour supply

86. It seems likely that labour force growth will continue to provide one of the main means of capacity growth in the short to medium term.[114] Construction employment has risen by

109 *Ibid.*

110 Ev 272, para 2.1 (Institution of Civil Engineers)

111 Unite—the union, *Sustainable Solutions for the Long-Term Supply of Skilled Operatives to the UK Construction Industry*, 2007

112 Q 10 (Construction Products Association)

113 Ev 226, para 33 (Constructing Excellence)

114 Ev 243, para 1.4.6 (Davis Langdon)

just under 500,000 in the past decade, although the rate of recruitment has remained relatively flat, suggesting that the duration of employment in the sector has increased over this period.[115] The Construction Skills Network estimates that to meet the expected expansion in construction output in the coming years, even taking account of a possible slowdown, the sector will need to recruit an average of 88,400 new recruits in each of the years up to 2012. This figure covers a range of skills and disciplines, including almost 10,000 extra workers in the electrical trades and installation sector every year, more than 12,000 construction professionals and technical staff, and 6,350 construction managers.[116] Within this, there will be considerable regional variation. Double-digit employment growth is anticipated in Wales, Northern Ireland and the East of England. In absolute terms, though, the largest sources of demand will be London and the South East, requiring over 28,000 new entrants in each of the next five years.

87. The new recruits needed in construction are expected to come from a range of sources, including school-leavers and other domestic new entrants.[117] We talk about increasing domestic capacity in Chapter 5, but for the industry to provide capacity in the short term, migration must also play an important part in meeting the future demand for new workers. The UK's ability to attract foreign labour explained why many organisations we spoke to, such as ConstructionSkills and CABE, were confident that the industry would achieve the increase in recruits it needed in the coming years, although there were likely to be shortages for some specific skills and disciplines.[118]

88. The Department for Work and Pensions (DWP) told us migration has "long made a small, but nevertheless important, contribution" to the UK's employment needs and that this is likely to continue in the future.[119] For construction in particular its current estimate of the number of migrants is around 144,000 out of 1.8 million manual workers in the sector (although this does not take account of illegal workers).[120] The extent to which the industry depends on migrant labour depends on its location. In most of the UK the proportion of migrant workers in construction is lower than in the wider working population. However, the proportion of the construction workforce that is migrant labour has risen from 4.6% in 2001 to 7.7% in 2006, and in London its share of employment has risen from 21.5% to almost 42% during the same period.[121]

89. Although the UK has traditionally drawn migrant workers from countries such as Ireland, the majority of those entering the sector in recent years have come from Eastern Europe.[122] Poland has been the chief source, followed by other countries that joined the EU in 2004. Several organisations, including ConstructionSkills, emphasised that migrant labour in construction is generally highly skilled and so mitigated the effects of domestic

115 Ev 131, Annex E (BERR)

116 *Op. Cit.*

117 Q 140 (ConstructionSkills)

118 Ev 208, para 8 (Construction Confederation *et* al), Ev 235, para 1.1 (ConstructionSkills), Ev 199, para 6 (CABE) and Ev 262, para 28 (Greater London Authority)

119 Ev 133, Annex E, para 21 (BERR)

120 Q 581 (BERR)

121 Q 579 (BERR)

122 Q 583 (BERR); Ev 313, para 4.1 (Royal Institution of Chartered Surveyors)

skills shortages.[123] A recent survey of construction firms by the Confederation of British Industry (CBI) found 41% expected to hire skilled migrants while only 29% expected to hire unskilled labour.[124] Evidence from DWP suggested the influx of Eastern European labour had had no discernable effect on claimant count unemployment, suggesting almost all of those that have entered the UK in recent years have done so to work. As ARUP told us: "Without these workers, our capacity to deliver major projects would be severely reduced".[125]

90. The increased use of migrant labour in the UK's construction industry was not welcomed by everyone. Unite—the union told us the UK was "over reliant on an imported off the peg skilled workforce".[126] While it accepted the benefits that imported labour had brought, the Construction Confederation considered that the current dependence on cheap foreign labour reduced the incentives for firms to invest in more modern methods of construction, and so was concerned that migration was a possible barrier to innovation.[127] The Minister did not accept this, and cited the fact that wage growth in construction has outstripped that of the rest of the economy as evidence that firms have not been able to artificially depress earnings by using migrant workers.[128] We are not convinced by this argument. The fact that earnings in construction have outpaced the rest of the economy might simply mean they would have been even higher if firms had not had access to an external source of labour.

91. While the possible effects of migration on construction innovation are largely anecdotal, there was a consensus that long-term reliance on migrant labour is not sustainable. ConstructionSkills told us it believed East European migrant workers came to the UK with the intention of accumulating savings for two to three years, before returning to their home country.[129] The recent decline in the value of sterling and increasing construction wages in Poland are likely to draw workers back. The Minister too stated "we may not be able to benefit from as many migrant workers in the future as we have done in the past".[130] Reports suggest this process has already begun. There was a 10% fall in East European migrants approved for work in the UK in 2007, compared to 2006.[131] The Institute for Public Policy Research also estimates that half of the one million migrant workers who entered the UK since 2004 have now returned.[132]

92. One of the main sources of capacity growth in the construction industry in recent years has been the availability of skilled migrant workers, predominantly from Eastern Europe. This imported labour has helped mitigate the effect of skills shortages and

123 Qq 142 (ConstructionSkills) and 203 (Unite—the union, T&G branch); Ev 208, para 8 (Construction Confederation *et al*), Ev 185, para 37 (Confederation of British Industry) and Ev 270, para 17 (Home Builders Federation)

124 Ev 185, para 38 (Confederation of British Industry)

125 Ev 150, para 1.6 (ARUP)

126 Ev 382 (Unite—the union, T&G branch)

127 Qq 10 and 24 (Construction Confederation)

128 Q 648 (BERR)

129 Q 143 (ConstructionSkills)

130 Q 580 (BERR)

131 The Independent, *Tide of migration turns as Polish workers return*, 27 February 2008

132 BBC News Online, *Half EU migrants 'have left UK'*, 30 April 2008

facilitated the continued expansion of the industry. However, it will not provide a long-term solution to the construction industry's skills needs since, over time, most foreign workers will return to their home countries. This means there is an ongoing need for the UK to invest in its own construction skills base—an issue we return to in Chapter 5.

The planning system

93. The planning system is another crucial determinant of construction industry capacity. The Home Builders Federation (HBF) told us that unlike skills availability, construction methods, or materials, planning is different because it is largely outside the industry's control.[133] It referred to the supply of land through the planning process as the industry's "lifeblood".[134] Various parts of the construction sector have concerns about the planning process. For example, the Quarry Products Association told us that quarry operation and restoration plans that create environments attractive to birds are now potentially subject to planning objections from aviation authorities because of their policy to create 'bird-strike safeguarding zones' for a 13 km radius around airfields.[135]

94. In the housing sector the HBF told us that it currently requires on average 15 and a half months for a residential planning application to be approved and that the amount of land coming through the system actually fell by 7% between 1997 and 2003.[136] The Federation saw this as the biggest single constraint on the Government's ability to increase the rate of housing new build in the UK.[137] In the infrastructure sector too, there have been many high profile examples of large-scale projects that were delayed significantly by the planning system, including the newly opened Heathrow Terminal 5 and Sizewell B nuclear power station.[138]

95. Although largely outside the scope of our inquiry, the planning system fundamentally determines the capacity of the construction industry through the supply of land, which can be developed and the uses to which that land can be put. This constraint affects all parts of the sector, from quarry products, through house-building, to infrastructure. The Committee looks forward to engaging further on this issue in the next Session, when it will be scrutinising the National Policy Statement for energy.

Construction price inflation

96. For some time construction prices have been increasing at well above the overall rate of inflation, which suggests that the industry's capacity is now constrained.[139] The Building Cost Information Service's (BCIS) current forecast of tender price inflation is 4.8% for 2008, with a rate of 6.5% in London.[140] There are several underlying causes of these

133 Q 408 (Home Builders Federation)

134 Q 402 (Home Builders Federation)

135 Ev 310, para 18 (Quarry Products Association)

136 Qq 407 and 409 (Home Builders Federation)

137 Ev 269, para 12-14 (Home Builders Federation)

138 We discuss proposed reforms to the planning system for new infrastructure later.

139 Ev 275, para 6.3 (Institution of Civil Engineers) and Ev 209, para 13 (Construction Confederation *et al*)

140 Building Cost Information Service, *Tender price inflation to hit 4.8% in 2008*, 6 February 2008

inflationary pressures. First is the sustained increase in construction demand in recent years. Second is the shortage of skilled labour. Although, this has been partly offset by the influx of migrant workers, nonetheless, wages in construction have continued to grow faster than in the wider economy. Finally, shortages of key materials such as steel, copper and timber have also raised input costs significantly as has the rapidly rising cost of energy. Raw material costs have increased because of demand from other parts of the world, including China and the Middle East.[141]

97. The City of London Corporation told us pressure from the Olympics was likely to lead to a higher level of tender price inflation in the capital, although the Games were not expected to result in prohibitively high price levels in the City.[142] The Government's own estimates are for the Olympics to add 0.2% per annum to tender prices between 2006 and 2010.[143] The more worrying issue is the impact of inflationary uncertainty on construction contractors in long-term fixed price contracts. The Chartered Institute of Building suggested this may have the effect of firms being unwilling to enter into contracts without significant risk premiums being built into their bids.[144] This could impact on projects such as the Olympics, Crossrail and Heathrow East, all of which have long-term delivery schedules.

98. Despite the offsetting factors of recent migration and the current economic slowdown, a combination of high demand, skills shortages and rising input prices has led to construction price inflation running at above the overall rate of inflation. However, we cannot predict what the effect of the current industry downturn will be. Construction price inflation poses a cost risk to construction firms on long-term contracts. It also reduces the cost certainty for public sector clients of long-term projects such as the Olympics.

Helping the industry plan for additional capacity

99. The project-based nature of much construction activity means that the industry often takes a short-term attitude when making decisions about capacity investment, and fails to invest in areas such as training, new technologies, innovative ways of working or client relations, all of which could raise productive capacity in the long run.[145] For example, an apprentice would usually gain experience through working on several projects over time. However, a small contractor may not be able to offer sufficient employment security for them to be able to complete their training. Ultimately, the client suffers the consequences of this short-termism through higher tender prices and an end-product delivered through traditional construction methods, rather than using practices designed to give them best value.[146]

141 Ev 191 (Chartered Institute of Building)

142 Ev 192, para 4 (City of London)

143 Ev 118, para 16 (BERR)

144 Ev 191 (Chartered Institute of Building)

145 Q 21 (Construction Confederation)

146 Ev 179, para 24 (Buildoffsite)

100. As the largest client to the construction industry, the public sector could potentially structure its work to give the sector's supply chains the security to invest in their capacity. The Construction Confederation told us the industry has "a great capacity to deliver when it gets engaged early".[147] Buildoffsite said that engaging as early as possible with suppliers helps to ensure that the optimum construction techniques are identified and gives them time to plan for greater investment in manufacturing capacity and the required skilled resources.[148] Indeed, this view was echoed by most of the industry's main representative bodies.[149] In evidence, the Minister himself also agreed that there is "huge potential […] for the public sector in its procurement activity to be helpful to the industry, and indeed to promote improvement".[150]

101. While the public sector provides the most stable part of the industry's work in one sense, at the programme and project level it has often been characterised by volatility and poorly co-ordinated demand. This partly reflects the political context in which the public sector operates. That said, ARUP told us other countries, for example France, generally have a greater capacity than the UK for the delivery of large infrastructure projects on time and to budget because of their use of longer-term investment planning.[151] In recent years, there has been a growing acknowledgement in the UK of the importance of early engagement with the construction sector to help ensure it can deliver the Government's investment pledges. For example, the spending review system provides an indication of spending on public sector construction anticipated in the following three years, as do longer-term planned programmes of expenditure such as Building Schools for the Future. Elsewhere, Ofwat is setting out long-term investment plans for the water industry and the Department for Transport is developing a 30-year national rail strategy. However, such intentions are inevitably subject to the perennial uncertainty over longer-term public spending plans. Statements of policy, such as the commitment for all new homes to be 'zero carbon' by 2016, also provide information to the construction sector on the direction of travel of the Building Regulations and where it should focus its capacity investment.

102. In the area of planning, the Government is currently introducing a new single system for major infrastructure. The reforms will include the establishment of National Policy Statements to inform planning decisions on major projects. They have the potential to make the consent system for infrastructure projects more predictable, which could allow the construction industry to plan more effectively for their delivery, although, as the Institution of Civil Engineers told us, this would have to be "accompanied by increased cross-government planning of construction work flow".[152] Another change in planning policy, this time at a local level, has been the introduction of Planning Policy Statement 3 on Housing, which entered into force in April 2007. This requires local authorities to identify a rolling five-year forward supply of developable land sufficient to meet their agreed housing requirements. This information should help developers to plan for the

147 Q 10 (Construction Confederation)

148 *Ibid.*

149 Ev 209, para 15 (Construction Confederation *et al*), Ev 149 (ARUP), Ev 224, para 22 (Constructing Excellence), Ev 290, para 5.C.d (National Specialist Contractors' Council), and Ev 203 (Construction Clients' Group)

150 Q 598 (BERR)

151 Ev 150, para 1.5 (ARUP)

152 Ev 136, Annex H (BERR) and Ev 276, para 7.2 (Institution of Civil Engineers)

longer-term, but house building rates will still depend on the strength of the housing market.[153]

103. Despite these improvements in the Government's approach, the construction industry believes it could still do better. The Construction Products Association (CPA) told us that while details of government spending plans were useful for the sector, firms would find it more helpful if these were set out, for example, in terms of number of schools to be built rather than overall expenditure levels. The CPA said it is "output targets, not input spend, which interests us".[154] In addition, whereas some parts of the public sector have improved information flow to the construction industry, there are many other areas where there is still uncertainty and confusion because the Government either does not collect information on progress towards a particular target, or does not communicate well when programmes have been delayed or changed.[155]

104. The CPA produces an annual report which monitors and assesses the delivery of the Government's plans for investment in the built environment.[156] It covers six areas of activity—social housing, schools, the NHS estate, roads, the rail network, and water—on which it scores the Government's performance against its targets and makes recommendations. In its most recent report the CPA gave three stars out of a potential five for the public sector's new build work, but only two stars for its efforts with the existing building stock. The CBI also highlighted its concern about public sector procurement delays.[157] It found on average delays in the procurement process on health Private Finance Initiative schemes amounted to £2.45 million on each deal. It also cited findings from the Major Contractors' Group of average delays of just under eight months for health projects and seven and a half months for schools. The CBI argued that such procurement delays are "costly to bidders and the taxpayer and seriously undermine the drive for value for money and efficiency in public services".[158] More generally, the Construction Confederation told us the public sector needed to be more realistic about the delays that tended to blight major construction programmes.[159] What is important is the flow of information to the industry when such delays or cut-backs are anticipated.

105. Not only is it important for the Government to establish long-term programmes and communicate progress and changes to planned delivery, it also needs to have adequate phasing of projects to ensure a steady flow of work to the industry. This too will help its supply chains keep together experienced teams that can move from project to project.[160] This is also important where the timescales for major infrastructure projects overlap. For instance, the Royal Institution of Chartered Surveyors noted the general belief by those in the industry that the Olympics, Crossrail and the M25 expansion would collectively need careful co-ordination to avoid spikes in construction price inflation and delays to delivery

153 Ev 269, para 8 (Home Builders Federation)

154 Q 30 (Construction Products Association)

155 Ev 209, para 17 (Construction Confederation *et al*)

156 Construction Products Association, *Achievable targets—is government delivering?* 2008

157 Ev 183, para 22 (Confederation of British Industry)

158 *Ibid.*

159 Q 31 (Construction Confederation)

160 Ev 224, para 22 (Constructing Excellence) and Ev 203 (Construction Clients' Group)

schedules.[161] Yet the Institution of Civil Engineers told us at present "there is little evidence of serious co-ordination".[162] In a recent report it argued that the Government needed to provide greater client leadership to the construction industry on the demand for infrastructure work. It called for the setting up of an independent national commission for strategic infrastructure planning whose role would be to co-ordinate spending programmes across the public sector and "bring an end to unpredictable, stop-start procurement".[163]

106. In recent years the public sector has responded to calls for greater co-ordination of construction activity. A review by Sir Christopher Kelly in 2003 made recommendations on the importance of engaging suppliers at an early stage and ways in which sharing supply and demand information can enable better planning in the construction industry.[164] This work is now being led by the Public Sector Construction Clients' Forum (PSCCF). In 2006 the PSCCF produced a report on construction demand and capacity. One of its key findings was that, assuming there would be no restrictions on the use of migrant labour, the UK would not face any significant general labour capacity constraints between now and 2012, although there would be shortages in some specific areas such as project management and design.[165] The study also produced an econometric model to help government analyse the impact of different scenarios and therefore inform investment decisions. The Minister told us he thought the Forum "does give us the opportunity to improve the flow of information to the industry […] about what is coming up".[166] These developments, combined with the current work of ConstructionSkills to forecast future skills needs, have the potential to enhance the construction industry's long-term capacity planning. However, they are still dependent on the provision of reliable and timely information on construction demand from the rest of the public sector.

107. If the construction industry is to have an incentive to improve its capacity to deliver in the long run by investing in training and new ways of working, it requires the security of a long-term flow of work. The public sector is beginning to acknowledge the role it can play in engaging early with the construction supply chain. It is setting longer-term investment programmes for public services, introducing a new approach to planning, and has clearly committed to 'zero-carbon' homes by 2016. However, it could still do more to improve the flow of information to the construction industry, particularly when programmes are delayed, amended, or abandoned. We believe that there is scope for greater co-ordination of major construction projects to mitigate the effects on construction price inflation and to ensure a steady workflow for the industry, although the industry must recognise that its health is only one of the factors the public sector has to take into account. Like any other client, different parts of the public sector will expect to arrange their construction projects to meet their own needs.

161 Ev 312, para 2.3 (Royal Institution of Chartered Surveyors)

162 Ev 275, para 6.1 (Institution of Civil Engineers)

163 Institution of Civil Engineers, *The State of the Nation—Capacity and Skills*, January 2008

164 Sir Christopher Kelly, *Increasing Competition and Improving Long-term Capacity Planning in the Government Market Place*, 2003

165 Ev 118, para 12-16 (BERR)

166 Q 598 (BERR)

108. One of the responsibilities of the Chief Construction Officer should be leading the Public Sector Construction Clients' Forum's work on capacity planning. The post-holder should work with departments both to improve the flow of information on construction programmes, and to advise on their co-ordination. As the industry's largest single client, the public sector ultimately benefits from such early engagement.

4 Improving economic sustainability

109. Truly sustainable construction should produce the best possible economic, social and environmental outcomes. These facets of the construction process are in fact complementary to each other—not mutually exclusive, as sometimes supposed. For example, a building that minimises its environmental impact through energy efficiency and reducing water wastage will also improve its economic performance by cutting its occupant's running costs. Similarly, a construction process with high health and safety standards is less likely to result in accidents that delay a project's delivery. Chapters 4, 5 and 6 separately consider the economic, social and environmental elements of sustainable construction. We show the linkages between the three dimensions; how they are underpinned by the importance of design; and how in conjunction they can achieve a better outcome for the industry, its workforce, its clients, and society. In this chapter we focus on the economic sustainability of the sector and the primary means of promoting this—through the client and supply chain working together as a team. We then explore in more depth the main characteristics of successful team-working, and the various ways government can do more to foster it.

Recent economic performance

110. The key factors for an economically sustainable end-product are performance against time, cost and design quality. Best value for the client comes when all these are considered together. Constructing Excellence and BERR collect data against these indicators for both private and public sector construction projects to assess performance over time. Table 4 below gives some of the results of their most recent report.

Table 4: Construction industry performance on time, cost and client satisfaction

Key performance indicator	2000	2001	2002	2003	2004	2005	2006	2007
Client satisfaction: product (% scoring 8/10 or better)	73%	72%	73%	78%	80%	83%	84%	82%
Client satisfaction: value-for-money (% scoring 8/10 or better)	-	67%	69%	73%	74%	79%	80%	75%
% of projects on cost or better	50%	46%	48%	52%	50%	48%	45%	46%
% of projects on time or better	28%	36%	42%	44%	44%	46%	44%	58%

Source: Constructing Excellence in partnership with BERR, Industry Performance Report, 2007

111. It is not easy to provide an objective overall measure of design quality. However, client satisfaction can give a subjective indication of the industry's performance. Table 4 above shows that, across the industry, client satisfaction has steadily increased in recent years, both in terms of the end-product and whether it represents value-for-money. There has also been a significant increase in the percentage of projects delivered on time, albeit from a very low base. However, performance in terms of cost has barely changed at all—more than half of reported projects went over budget. As the Construction Confederation told us: "The evidence is not brilliant".[167] **Overall, the construction industry is getting better**

167 Q 49 (Construction Confederation)

at delivering a quality product for the client, and the proportion of projects completed on time has increased, but there still remains significant room for improvement in finishing projects both to time and to budget.

Raising performance through integrated teams and supply chains

112. The construction industry's poor performance is largely a consequence of its highly fragmented structure. The traditional approach has been for the client to appoint an architect to produce a design, which is then tendered to a main contractor who has responsibility for managing construction delivery. The main contractor will then sub-contract the work to specialist contractors who are largely responsible for making the architect's original design a reality. This hierarchical structure often leads to adversarial relationships, with most parties operating in silos, and the transferral of risk along the supply chain.[168] Frequently delays occur because sub-contractors have not had the chance to influence the early design. Disputes and reworking impact on out-turn costs and the quality of the end-product. This puts at risk the improved services or business performance that the project is meant to deliver.

113. Because the construction industry's structure so clearly harms its performance the main thrust of recent efforts to improve it have focused on the need for greater team-working—what the industry refers to as integrated delivery. The Specialist Engineering Contractors' (SEC) Group described integration as "the bringing together of all the processes involved in construction delivery—especially design and construction—into a seamless whole".[169] The client, the main contractor, architects, sub-contractors, structural engineers, etc should work together as a team and share collective responsibility for the delivery of a project. Integrated teams, which are often co-located, should be established at the outset to work together on the design, cost plan and allocation of risk before construction begins. Everyone involved in the project team has a collective interest in ensuring its success. The Construction Confederation cited industry estimates that between 15% and 20% of project costs could be saved as a result of adopting a more integrated approach.[170]

114. Integrated supply chains are able to move from project to project, and apply lessons learnt on one project to the next. This gives firms greater confidence to invest in their capacity, for example, by providing training for their employees or developing new ways of working. As a result, the industry can further improve its performance. However, if they are to survive integrated supply chains need the security of a long-term programme of work. This is one of the main reasons why the development of framework agreements and long-term government expenditure programmes are important to the industry.[171] Without them, it is difficult to hold supply chains together from project to project.

115. Integrated teams and supply chains were at the heart of both the Latham and Egan reviews of the industry, and are a key part of the good practice guidance promulgated by

168 Ev 333, para 1.5 (Specialist Engineering Contractors' Group)

169 Ev 334, para 1.9 (Specialist Engineering Contractors' Group)

170 Ev 209, para 19 (Construction Confederation, Construction Industry Council and Construction Products Association)

171 We discuss these in Chapters 2 and 3.

Constructing Excellence, the industry's Strategic Forum, and the Office of Government Commerce. The 2002 Egan report, *Accelerating Change*, set an ambitious target for 20% of construction activity by value to be conducted by integrated teams and supply chains by 2004, and 50% by 2007. That has not been achieved. On using 2006 survey data, the Construction Products Association (CPA) estimate that roughly 20% of projects use integrated project teams, where the client's team and the contractor's team work together, and no more than 15% use integrated supply chains.[172] However, collecting data to assess performance is not straightforward. The extent to which teams or supply chains are seen as integrated often depends on the perspective of those involved. The SEC Group told us clients working together with just their main contractor and designers may consider themselves an integrated team. From the perspective of sub-contractors, who are frequently excluded from such arrangements, no more than 5% of projects are integrated.[173]

116. Whatever the actual figure, the Strategic Forum noted that while "more integrated working is taking place … there is no hiding from the fact that we have not moved anything like as quickly as the *Accelerating Change* report intended or we would have liked".[174] The National Specialist Contractors' Council (NSCC) attributed this lack of progress to a "lack of engagement by clients and main contractors".[175] This is all the more disappointing given the savings that integrated delivery could realise. The National Audit Office's 2005 report estimated that such collaborative working, in conjunction with the application of other industry good practice, could generate savings of roughly £2.6 billion per annum for the public sector.[176]

117. The industry's main umbrella bodies remain committed to the promotion of integrated working. They have agreed new, although slightly less ambitious, targets for various parts of the sector—clients, consultants, main contractors, specialist contractors, and product manufacturers and suppliers—to be engaged in integrated supply chains on 30% of construction projects, and for 40% of their work to be conducted through integrated project teams by 2012. The Strategic Forum has also agreed an action plan of activities to engage with the industry to help it meet the targets. Best practice in integration and procurement is also one of the six themes of the new Construction Commitments.

118. The fragmentation of the construction industry has contributed to its poor performance on delivery to time and cost. Integrated working not only improves value for the client, but also allows time for firms in the supply chain to develop business relationships with each other, creating an environment that encourages investment in capacity and innovation. Despite the potential benefits for all involved, progress in adopting integrated working has been slow. We welcome the new targets for the period 2008 to 2012. We are encouraged that the industry bodies have recognised their responsibility. The Government should also play its part through, for example, effective

172 Ev 219, Annex (Construction Confederation, Construction Industry Council and Construction Products Association)

173 Q 335 (Specialist Engineering Contractors' Group)

174 Ev 218 (Construction Confederation, Construction Industry Council and Construction Products Association)

175 Ev 290, para 4.B.c (National Specialist Contractors' Council)

176 National Audit Office, *Improving Public Services through better construction*, HC 364-I, Session 2004–05, March 2005

framework arrangements; engagement with the industry on its long-term construction programmes; and departments' compliance with the Common Minimum Standards.

Early engagement with the supply chain

119. Many of the industry bodies we spoke to said that early engagement of the supply chain was a fundamental feature of integrated working which ultimately benefits clients.[177] Traditionally, construction projects have followed a sequential process of design, specification, and procurement. However, this approach tends to preclude manufacturers and specialist contractors from offering expert advice at an early stage.[178] Integrated working, which involves the supply chain early on in projects, generates efficiencies in both the design and construction stages.[179] The whole team is able to influence the planning of the project, its design, and the management of risks and costs. Issues which might have arisen further down the line, leading to costly re-working of the initial design, can be addressed at the outset. In so doing, early engagement promotes a more realistic costing and bidding process.[180]

120. In spite of the advantages, the SEC Group told us the public sector had a poor record of engaging the supply chain early. A survey of its members found that only 7% had been appointed early on in the majority of government projects they had worked on. 44% of firms stated that they had not been appointed at an early stage for any project. This is surprising given that the SEC Group estimate specialist engineering firms contribute as much as 70% of projects' value.[181] It is also disappointing given the prevalence of framework arrangements in the public sector, which are supposed to support the development of integrated teams. **Overall, government is not doing enough as client to engage with the supply chain early on—a key feature of integrated working. As a result, the public sector is missing out on efficiencies that would deliver a cheaper and better quality end-product.**

Maximising whole-life value

121. The selection of teams on the basis of 'whole-life value', rather than 'lowest price' is key to integrated working.[182] Whole-life value involves the maximisation of benefits and minimisation of costs over a project's lifetime. Initial construction costs are a small element of the total lifetime cost of the built environment.[183] The Commission for Architecture and the Built Environment (CABE) told us that "over quite a short life of a building, you will quickly spend more running it, operating it, maintaining it, consuming energy in it, and so on than you will in its first creation".[184] Similarly, decisions made at the design stage can

177 Q 32 (Construction Industry Council); Ev 224, para 22 (Constructing Excellence), Ev 290, para 4.B.d (National Specialist Contractors' Council) and Ev 318, para 1.1 (Specialist Engineering Contractors' Group)

178 Ev 254, para 6 (Federation of Environmental Trade Associations)

179 Ev 224, para 22 (Constructing Excellence)

180 Ev 265, para 25 (Heating and Ventilating Contractors' Association)

181 Ev 318, para 1.2 (Specialist Engineering Contractors' Group)

182 Ev 228, para 47 (Constructing Excellence)

183 Ev 295 (NG Bailey)

184 Q 212 (Commission for Architecture and the Built Environment)

have massive effects on the benefits drawn from a project over its lifetime. In a workplace this may include raised productivity for its occupants or, say, for a hospital, better health outcomes for its users. By taking account of the lifecycle of the built environment, a consideration of whole-life value can also contribute to achieving social and environmental sustainability. As CABE told us: "It would change quite fundamentally what we build and probably how we build it".[185]

122. Despite the acknowledged benefits of a whole-life approach to construction appraisal and procurement, many clients have yet to apply it. The Building Services Research and Information Association (BSRIA) told us that there has been a trend away from procurement on a lowest price basis in recent years, but that "price still remains the dominant criterion in 64% of cases".[186] There are several reasons for this. First there is a simple lack of understanding by clients of what whole-life value means and how they can benefit from such an approach.[187] Second, without an integrated team or supply chain, it is difficult for everyone involved in a project to define at the outset what will provide best value for the client.[188] Third, clients frequently face pressure to bring down the upfront costs of a project because of budget constraints.[189] They are not rewarded for purchasing a more expensive solution that would actually give better whole-life value. Finally, those in charge of procuring a project are unlikely to be responsible for its eventual running costs. This also creates an incentive for clients to focus on minimising the capital expenditure of a new building, rather than taking account of its operating costs as well.[190]

123. Government and the industry are promoting awareness among clients of the importance of whole-life value when developing projects. On the industry's side, Constructing Excellence is undertaking research on the relative ratio of construction cost to business value, to improve the evidence base in support of whole-life project appraisal.[191] Elsewhere, the Construction Industry Council has led the creation of the Design Quality Indicator (DQI), an online tool, launched in 2003, for evaluating the design of buildings. There are several versions of the DQI, which procurers of buildings can apply according to the different phases of the project. First, there is a 'brief' version, which aims to clarify the client's priorities and ambitions for a project. This is followed by a 'mid-design' version, which allows the client and design team to assess whether their initial aspirations have been met and for them to make adjustments. There are then 'ready for occupation' and 'in use' versions, which clients can apply later down the line. The aim of the process, which around 800 projects have now used, is to provide a more objective assessment of what can provide best value for the client.[192] A variation of it has now been developed for schools.

185 Q 212 (Commission for Architecture and the Built Environment)

186 Ev 169, para 2-3 (Building Services Research and Information Association)

187 Q 214 (Commission for Architecture and the Built Environment)

188 Ev 318, para 1.4 (Specialist Engineering Contractors' Group)

189 Q 213 (CABE); Ev 224, para 20 (Constructing Excellence), Ev 212, para 37 (Construction Confederation, CIC and CPA), Ev 153, para 3.7 (ARUP) and Ev 311 (Royal Institution of Chartered Surveyors)

190 Ev 224, para 20 (Constructing Excellence)

191 Ev 222, para 11 (Constructing Excellence)

192 www.dqi.org.uk; Ev 214, para 59 (Construction Confederation, CIC and CPA)

124. At the time of its launch, the Strategic Forum had set a target for 50% of publicly-funded and PFI projects with a value in excess of £1 million to be using the DQI, or a variant of it. The Construction Products Association told us, however, that although considerable progress has been made, it has been difficult to measure performance. It did note that in 2007 around 90% of new schools costing more than £1 million were using the process.[193] As part of the new industry targets for 2012, the Strategic Forum has set a slightly less ambitious target for a 10% year-on-year increase in the proportion of civic, housing and education projects using the DQI.

125. Government, too, has made some progress in encouraging a whole-life approach to procurement. It has been a key part of the OGC's *Achieving Excellence in Construction* initiative. The Private Finance Initiative (PFI) is also meant to encourage decision-making on the basis of whole-life value, because suppliers have responsibility for both the initial construction and the subsequent operation of a project, be it a hospital, a prison or a school. This creates an incentive for them to minimise costs over the building's lifetime. The CBI told us PFI has led to a reduction in construction times by 40% and cost savings of more than 20%. Survey evidence of all 500 operational PFI schemes shows 72% reported 'good' or 'very good' performance in the service levels achieved by the contractor.[194]

126. HM Treasury's *Green Book*, which provides guidance on the investment appraisal for all public procurement, states that departments should take whole-life value into account when making investment decisions.[195] To this end, the OGC has recently published a supplement to the *Green Book* looking specifically at whole-life value in construction. The achievement of improved whole-life value by encouraging uptake of the new Construction Commitments is also an overarching objective of BERR's *Strategy for Sustainable Construction*. However, BERR's memorandum to the Committee acknowledges that: "Ultimately, as well as value-for-money assessments, each department needs to take account of what is affordable within its overall budget". BERR also told us that applying a whole-life value approach is challenging and that its success is dependent on the use of "high calibre people with the appropriate skills". The OGC is trying to address this issue through the reinvigoration of the Government Procurement Service, which we discussed in Chapter 2.[196]

127. A whole-life value approach to construction procurement seeks to maximise the benefits and minimise the costs of a project across its life-cycle. It requires an integrated project team able to develop a design that creates best value for the client. However, it also requires clients to have the skills and long-term perspective to make investment decisions which are not based on short-term price. Government has made progress in encouraging a whole-life approach in the public sector, but in the words of the Minister: "There is a good deal more to do".[197] We welcome the emphasis placed on whole-life value in BERR's *Strategy for Sustainable Construction*. We also welcome the publication of the OGC's supplement to the *Green Book* on whole-life appraisal in

193 Ev 219, Annex (Construction Products Association)

194 Ev 181, para 7-8 (Confederation of British Industry)

195 Q 623 (BERR)

196 Q 623 (BERR)

197 Q 623 (BERR)

construction, which the Office should now seek to embed in procurement practice across government. It should support this by ensuring clients have the information to accurately quantify whole-life costs and benefits. Finally, the Government should make it mandatory for all public sector projects with a value in excess of £1 million to use a structured mechanism for assessing their design, such as the Design Quality Indicator.

Commercial arrangements to manage risk

128. Integrated team working can allow risk to be managed more effectively. The construction industry's traditional way of working has been for contractors and their supply chains to adopt an approach to contracting and insurance that allocates risk disproportionately, and promotes adversarial relationships between firms. Because risks are not effectively managed, they are more likely to come to fruition, and so the client ultimately suffers. Constructing Excellence told us that "the public sector needs to understand and manage risk better".[198] It can do this by both changing the way it contracts with the industry, and by adopting a different approach to insurance.

Collaborative contracts

129. The legal framework for contracts can affect the way in which parties behave. If integrated supply chains are to function effectively, they need to be supported by contractual arrangements which ensure risk is owned and shared by the entire project team.[199] They should also be transparent and non-adversarial in style. The Institution of Civil Engineers' NEC3 Engineering and Construction Contract has set the benchmark in this area. First introduced in 1993 as the New Engineering Contract (NEC), it is a family of contracts written in plain English and designed to foster partnership between employers, designers, contractors and project managers.[200] Other forms of standard contract such as the Project Partnering Contract (PPC 2000) and the JCT Constructing Excellence (JCT CE) Contract adopt a similar approach, with the encouragement of collaboration being at their heart.

130. Both the National Audit Office and the Office of Government Commerce have recommended the use of collaborative contracts by public sector construction clients.[201] However, evidence we received suggested their use is far from universal. The Specialist Engineering Contractors' (SEC) Group highlighted Network Rail and the Building Schools for the Future programme as examples where traditional contractual arrangements, which pass risk along the supply chain, are still in place.[202] More generally the SEC Group criticised the public sector for having in place a "vast array" of "unnecessarily complicated and lengthy" construction contracts for different procurement methods and buildings. The Group argued that the proliferation of different contract forms with varying risk/reward

198 Ev 224, para 21 (Constructing Excellence)

199 Ev 228, para 47 (Constructing Excellence)

200 Ev 279, para 11.3 (Institution of Civil Engineers)

201 National Audit Office, *Improving Public Services through better construction*, HC 364-I, March 2005

202 Ev 366, para 6 (Specialist Engineering Contractors' Group)

mechanisms added substantially to the cost of bidding for government construction work.[203]

131. A related issue raised by the SEC Group, the Heating and Ventilating Contractors' Association (HVCA) and the Confederation of Construction Specialists was the use of bespoke rather than standard form contracts by main contractors.[204] They argued that such bespoke contracts tend to use the industry's traditional approach of passing risk down the supply chain. This often occurs despite the fact that the contract between the client and the main contractor itself reflects a fair apportionment of risk. For example, even though the client and main contractor may use the NEC3 Engineering and Construction Contract, the main contractor is not obliged to reciprocate the same arrangements with their supply chain unless the client tells them to do so. The SEC Group cited evidence from 2005 that only 38% of firms were content with the contractual terms on offer on the majority of projects. Arguably such arrangements are not conducive to the development of integrated supply chains.[205]

132. Integrated team-working needs to be underpinned by contracts that foster collaborative rather than adversarial relationships between clients, their contractors and their sub-contractors. Unfortunately the industry does not seem able to do this for itself. As a result clients must take the lead. There are useful standard contract forms such as the NEC3 Engineering and Construction Contract, recommended by the Office of Government Commerce for all public sector construction projects. Despite this, a large proportion of government construction is still let using a variety of traditional contractual arrangements. Led by the OGC, departments should work towards the use of collaborative contracts as a matter of course, and ensure they are adopted throughout their supply chains.

Project insurance

133. Traditionally, insurance arrangements in the construction industry have aimed to protect the individual rather than the team.[206] Project participants are frequently required to have a number of different insurance policies, including professional indemnities policies and product liability policies. As a result, any one construction project may be covered by a plethora of different and potentially overlapping policies. The SEC Group cited evidence from the Reading Construction Forum that around £1 billion is wasted every year on insurance cover that provides for the same types of risk.[207] Constructing Excellence also told us that insurance is a problem, "with redundant layers of consultant, contractor and supplier cover which often do not protect the client anyway".[208] Furthermore, because these insurance policies are activated on proof of liability, this can lead to defensive behaviour on the part of contractors and sub-contractors. The process of

203 Ev 342, para 2.10-11 (Specialist Engineering Contractors' Group)

204 Ev 203, para 6-7 (Confederation of Construction Specialists), Ev 342, para 2.9 (Specialist Engineering Contractors' Group) and Ev 264, para 13 (HVCA)

205 Ev 321, para 2.9 (Specialist Engineering Contractors' Group)

206 Ev 343, para 2.12 (Specialist Engineering Contractors' Group)

207 Ev 320, para 2.6 (Specialist Engineering Contractors' Group)

208 Ev 229, para 47 (Constructing Excellence)

apportioning blame is also costly and can swallow up the bulk of what is paid out on a policy.[209]

134. One innovative approach has been the development of Integrated Project Insurance (IPI), where the client has one insurance policy that covers the entire integrated team—client, contractors and sub-contractors. The whole project is insured against a target budget that has been agreed by the insurer and the project team. The insurer covers financial loss incurred above the target budget, subject to any agreed deductible, which is shared between all members of the team. Correspondingly, any benefits from out-performing the target budget are also shared among the project team. This aligns the interests of all members of the team to help ensure the project is a success.

135. BAA used a form of IPI on its recent Heathrow Terminal 5 programme. Its application there was cited to us as an underpinning factor in the Terminal's construction on time and on budget.[210] However, Constructing Excellence told us the concept "needs some learning from demonstration projects before it can be promoted with confidence".[211] The SEC Group told us a number of brokers and insurance companies are interested in supporting such pilots.[212] In turn, the Minister responsible for construction said a health service project managed by NHS Estates was currently piloting the concept to see if it could be more widely applied for the public sector.[213]

136. Integrated Project Insurance provides single cover for the entire project team, and could foster integrated working by encouraging the collective ownership of a project's target budget. It is an emerging concept, but one that could deliver benefits for all members of the project team. We encourage the OGC to set a target for the approach to be piloted across a range of departmental construction projects so it can be properly evaluated.

Fair payment

137. Integrated working can only succeed if there is a culture of fair payment throughout the construction sector. The hierarchical structure of most industry supply chains means that payment tends to flow from the client to the main contractor, who then pays the project's sub-contractors, who in turn pay their own sub-contractors. Both the main industry umbrella bodies representing sub-contractors—the National Specialist Contractors' Council (NSCC) and the SEC Group—told us there remains a "deep-seated culture among main contractors of delaying, reducing or simply avoiding payment to their sub-contractors".[214] At worst, poor payment practice can lead to firms' insolvencies. In this section we consider current payment practices in the construction industry, and particularly the issue of retentions. We then look at the various ways in which the

209 Ev 321, para 2.7 (Specialist Engineering Contractors' Group)

210 Q 213 (Constructing Excellence)

211 Ev 229, para 47 (Constructing Excellence)

212 Ev 228, para 2.13 (Specialist Engineering Contractors' Group)

213 Q 615 (BERR)

214 Ev 289, para 3.A.a (National Specialist Contractors' Council)

Government has sought to address the issue in recent times, including by amending the Construction Act, and what further work it can do.

Retentions

138. Retention is a contractual mechanism, whereby a proportion of all payments made to a main contractor is held back by the client until expiry of the defects liability period of the main contract. This is usually about 12 months after the completion of the project. The practice tends to be mirrored down the supply chain, with the main contractor holding a retention against its sub-contractors. The sum held is usually around 3-5%. As a rule, half the retention is paid to the sub-contractor upon completion of their work on a project. The other half is paid on receipt of the final certificate or 'making good defects' certificate.[215] The practice is common throughout the construction industry. A recent survey by the NSCC estimated the total amount currently held in retention against its members at about £950 million.[216] The SEC Group estimate a total of £3 billion is held across the industry at any one time.[217]

139. For many clients, retentions may provide a means of protecting themselves against a poor quality end-product. However, the HVCA told us: "Retentions do not promote quality; this is achieved through rigorous qualification and inspection procedure and engendering positive relationships".[218] For infrequent clients, though, it is easy to see why they use retentions as a means of insurance. This is less the case for frequent clients, where there is always the option of withholding future work. The SEC Group told us a particular concern was the practice of many local authorities withholding retentions, not as a means of protecting themselves against poor quality service, but to use the money for other purposes or just to earn interest.[219]

140. Retentions are a major concern for sub-contractors, and particularly for small businesses. The NSCC noted that sub-contractors involved at the very early stages of a project often have to wait years before the retention is paid.[220] Even then, more often than not, it is not paid automatically. Rather sub-contractors have to pursue payment themselves. In some instances companies have reported up to 20% of their turnover being tied up in retentions.[221] This has major implications for firms' ability to invest. The SEC Group cited evidence of how firms might otherwise have used retention monies: 20% said they would invest in more training; 14% said they would employ more operatives; 13% stated they would invest in IT; and 10% would invest in new equipment and tools.[222]

215 Ev 289, para 3.A.j-k (National Specialist Contractors' Council)

216 Ev 289, para 3.A.i (National Specialist Contractors' Council)

217 Ev 345, para 2.17 (Specialist Engineering Contractors' Group)

218 Ev 264, para 19 (Heating and Ventilating Contractors' Association)

219 Q 365 (Specialist Engineering Contractors' Group)

220 Ev 289, para 3.A.k (National Specialist Contractors' Council)

221 Ev 264, para 17 (Heating and Ventilating Contractors' Association)

222 Ev 345, para 2.18 (Specialist Engineering Contractors' Group)

Furthermore, only about a quarter of contractors are ever requested to return and rectify defects—the main rationale for holding a retention in the first place.[223]

141. Overall, retentions can undermine efforts to create integrated supply chains by promoting a lack of trust between firms. The practice is also divisive because main contractors tend not to deduct retentions from other team members such as consultants and manufacturers.[224] Our predecessor Committee looked specifically at this issue over five years ago. Its Report concluded that retention "is an out-dated practice that should not be necessary in a modern, productive industry which delivers a high quality product".[225] In a follow-up Report the Committee concluded that "departments should set an example to other public sector procurers and the private sector and work to eliminate the practice of retention as soon as possible".[226] Indeed, government has other means by which it can protect itself against poor quality end-products. For example, framework arrangements, which we considered in Chapter 2, effectively managed can provide an incentive for firms to make good any defects or else be denied further work.

142. A number of large companies, such as Sainsbury's, BT and Yorkshire Water, have already stopped holding retentions. However, as the construction industry's largest client, the public sector is in a powerful position to instil the culture change necessary to phase out retentions entirely. Some parts have already done so, including the Highways Agency and Defence Estates and a smattering of local councils. Yet, there remains room for considerable progress. Even where government departments have a policy of no retention, this is often not enforced down the supply chain. This enables the main contractor to earn interest on the monies held against its sub-contractors.[227] Overall, the Building Services Research and Information Association (BSRIA) highlighted survey evidence stating that just 7% of building services contractors reported satisfaction scores of eight or more out of ten with respect to retentions. 37% gave the lowest score possible.[228] This suggests the sector has not made a great deal of progress during the intervening years since we last considered this issue.

143. The practice of holding a retention against contractors as an insurance against defects undermines efforts to promote team-working and integrated supply chains in the construction industry. It also damages the cash-flow of smaller sub-contractors and reduces investment in training and innovation. Government has other means by which it can ensure the sector delivers good quality projects, for example where it has long-term framework arrangements in place. Given that the practice is at odds with the Government's promotion of integrated working through the Common Minimum Standards and the Construction Commitments, we urge it to require all parts of the public sector to end retentions as soon as possible.

223 Ev 289, para 3.A.i (National Specialist Contractors' Council)

224 Ev 345, para 2.16 (Specialist Engineering Contractors' Group)

225 Trade and Industry Committee, Second Report of Session 2002-03, *The use of retentions in the UK construction industry*, HC 127, November 2002

226 Trade and Industry Committee, Fifteenth Report of Session 2002-03, *Retaining Retentions? Comments on the Government's response to the Committee's Report on the use of retentions in the UK construction industry*, HC 976, September 2003

227 Q 362 (Specialist Engineering Contractors' Group)

228 Ev 170, para 7 (Building Services Research and Information Association)

The 'Fair Payment' Charter

144. In 2007 the Office of Government Commerce (OGC) published its *Guide to best 'Fair Payment' practices*—the outcome of one of the working groups of its Public Sector Construction Clients' Forum. A key part of the Guide is the setting out of a *'Fair Payment' Charter*, which commits clients, main contractors and their sub-contractors to greater transparency; more efficient payment processes; and payment periods not exceeding 30 days. The Charter also states that any arrangements for not holding retentions should be replicated throughout the supply chain. This should help address the problem of main contractors holding retentions against their sub-contractors even though their clients do not hold retentions against them.

145. Central Government construction clients have been expected to adopt the principles of the Guide and the Charter since January 2008. BERR told us the OGC is currently putting in place processes to measure clients' compliance.[229] The Minister responsible for construction also told us that if "people […] come across examples of agencies in the public sector not complying with best practice I would like to know about it, and I would be very happy to take action in response".[230]

146. We welcome the introduction of the 'Fair Payment' Charter. The OGC should ensure all central government construction clients have affirmed their adoption of the Charter by the end of 2009. The Office should then aim for all local authorities to have signed up to it by the end of 2010. The OGC's monitoring of implementation should ensure that clients are adopting the principles of the Charter throughout the construction supply chain, and not simply between themselves and their main contractors. Where construction firms believe their client is not abiding by the principles of the Charter, we urge them to make representations to the Minister and to the OGC.

Project bank accounts

147. The OGC's *Guide to best 'Fair Payment' practices* and the National Audit Office's 2005 report *Improving Public Services through better construction* both recommended the use of project bank accounts by public sector clients. Here, the client sets up an account at the outset of a project and agrees an interim payment schedule for the main contractor and the supply chain in the normal way, which is then passed to the bank operating the account. When the client deposits money into the account, it is simultaneously transferred to the contractor and the supply chain in accordance with the schedule. Because all members of the team involved in a project are paid at the same time, rather than cash being cascaded down from the main contractor, the time taken for the supply chain to receive payment is reduced. The Guide estimates that the use of project bank accounts could cut the length of the payment cycle by 18 days compared to traditional arrangements.

148. The surety and transparency of cash flow brought by a project bank account can help facilitate integrated working. Sub-contractors no longer have to price in the risk of late or

229 Q 616 (BERR)

230 Q 618 (BERR)

no payment. The process also decreases financing charges across the supply chain and reduces the impact that the insolvency of a firm may have on those it owes money. The SEC Group cited a survey of its members, which found 65% thought their costs would be reduced through the use of project bank accounts. The majority of respondents believed their costs would reduce by up to 5%.[231] Both Barclays and Bank of Scotland have now begun to offer project bank accounts for construction customers, which BERR described as "welcome progress".[232] However, the National Specialist Contractors' Council (NSCC) told us an issue still to resolve is that the industry has not yet demonstrated to clients how such accounts can help them better manage their projects.[233] Indeed, because they are a fairly new financial product, there is still a relatively low level of awareness amongst infrequent construction clients that project bank accounts are available.[234]

149. Both the Office of Government Commerce and the National Audit Office have endorsed the use of project bank accounts as a means of improving payment practices and facilitating integrated working. Central government procurers should now start to make use of project bank accounts, where practicable and cost-effective. The OGC should monitor take-up and evaluate the benefits.

Amending the Construction Act

150. In recent times, the most significant action by government to improve payment practices in the construction industry was the passing of the *Housing Grants, Construction and Regeneration Act 1996*. Part 2 of the Act, generally referred to as the *Construction Act* sought to ensure prompt cash flow through construction supply chains and to encourage the swift resolution of disputes. On the first of these, the Act sets out a payment framework that:

- introduces the right to instalment, stage or periodic payments;
- requires the construction contract to have an adequate mechanism for determining what will become due and when;
- requires the payer to give the payee early communication of what is to be paid;
- provides that the payer may not withhold monies unless they have communicated in a notice the amount they intend to withhold from the sum due, and the grounds for doing so;
- provides that the payee may suspend performance when the amount due is not paid by the final date for payment; and
- prohibits contractual terms which make payment dependent upon the payer being paid.[235]

231 Ev 341, para 2.7 (Specialist Engineering Contractors' Group)

232 Q 615 (BERR)

233 Ev 291 (National Specialist Contractors' Council)

234 Q 351 (Specialist Engineering Contractors' Group)

235 Ev 144 (BERR)

151. The overall aim is to provide sub-contractors with "fairer, quicker, and simpler mechanisms to ensure certainty of payment".[236] The Act also requires adjudication procedures to be set out in construction contracts. This gives any party to a construction contract the right to have a dispute resolved by an adjudicator. Their decision is binding on the parties until the dispute is finally decided by arbitration, litigation or agreement. The process is meant to be quicker and more cost-effective than legal proceedings or arbitration.

152. Although the Act significantly improved payment and dispute resolution procedures in the construction industry, the SEC Group, and others told us firms' interpretation of it quickly brought to light a number of weaknesses in its provisions. These include the fact that contracts can still be drafted to enable the payer to delay payment by making spurious challenges to a payment claim, or just by ignoring the claim and forcing the payee to go to adjudication. In addition, although the Act requires the payer to notify the payee of the amount they intend to pay, there is no sanction for failure to give notice, and, in practice, it is rarely given. Furthermore, in response to the ban on 'pay when paid' clauses, firms have tended to use 'pay when certified' or 'pay what is certified' provisions instead. Weaknesses in the adjudication process have also become apparent. Challenges to the adjudicator's jurisdiction have increased the cost of adjudication, while bespoke procedures inserted into contracts have increased the process's complexity. In addition, these procedures often impose upon a party an obligation to meet the other side's legal costs.[237]

153. Since 2004, the *Construction Act* has been subject to review and a consultation, outlining a number of proposals. The Department held a second consultation in 2007. Over summer 2008 BERR will conduct what it hopes will be a final technical consultation on the specific clauses it intends to insert into the Act. These include:

- Removing requirements for the construction contract to be in writing. This will allow more disputes to be referred to adjudication, and will remove the potential for one of the parties to challenge the adjudicator's jurisdiction on the grounds that the entire contract is not in writing;
- Introduction of a statutory framework for the costs of adjudication. This will make ineffective any contractual clause on the allocation of the adjudication costs;
- Removal of restrictions about which party can issue a payment notice. Whether it is the payer, payee or a third party will be a matter for the parties to agree in their contract;
- Introduction of a 'fall back' provision, so that if the payer fails to issue a payment notice, the payee is able to do so;
- Prohibition of 'pay when certified' clauses. This should create greater clarity on when payments become due and what the sum due is;
- Clarification that the payer must always submit a withholding notice to the payee when they intend to pay less than the sum due, except in cases of insolvency; and

236 Ev 263, para 7 (Heating and Ventilating Contractors' Association)

237 Ev 350, para 3.15 (Specialist Engineering Contractors' Group)

- Improvement of the right of a party to suspend performance under a construction contract where they have not been paid.[238]

154. The Minister responsible for construction told us that "by and large the *Construction Act* has done a good job […] and that is the general view across the industry".[239] The changes the Department wishes to make are aimed at improving cash flow and encouraging the resolution of disputes by adjudication. However, the Minister also said that the industry has to "find a consensual way forward".[240] The process has taken so long primarily because it has been difficult to reach an industry-wide consensus. Indeed, just before the 2007 consultation the Construction Confederation and others told us that (with the exception of improvements to the adjudication provisions) given the existence now of the 'Fair Payment' Charter, further changes to the Act on payment practices were unnecessary.[241] On the other hand, the SEC Group and the HVCA felt the Government's current proposals did not go far enough.[242] The Department's intention is to 'piggy-back' the amendments on the forthcoming *Community Empowerment, Housing and Economic Regeneration Bill*, which the Government plans to introduce during the 2008–09 Session. This would mean the clauses could be on the statute book by autumn 2009. However, this is dependent on the feedback BERR receives from its consultation on the draft clauses, as well as progress with the Bill on which the Department is 'piggy-backing'. The fact that the Bill is being sponsored by a different department poses an additional risk factor.

155. The *Construction Act* provides the legal foundations for successful team-working. However, it is widely accepted that it still has some weaknesses. After years of consultation the Government has developed proposals, which it believes will address many of the industry's concerns, particularly those of sub-contractors. They appear to strike a sensible balance between the interests of main contractors and sub-contractors. BERR's aim now should be to ensure the amendments fulfil the policy objectives the Department has set out, and do not leave room for exploitation. It is vital that the next Session's opportunity to reform the legislation is taken.

Measuring performance

156. Integrated working give teams an incentive to evaluate their performance in terms of how they have met the client's original objectives, and learnt lessons for the future. This process, often referred to as post-occupancy evaluation (POE) is essential for teams working together on repeat projects.[243] POE involves the in-depth analysis of how well a new or refurbished building is performing; how it is affecting those who use it; and how it meets the operational needs of its occupants.[244] It should take place at the time when the main contractor hands over a building to the client, and over subsequent years to assess

238 Ev 144 (BERR)

239 Q 620 (BERR)

240 Q 621 (BERR)

241 Ev 214, para 58 (Construction Confederation, Construction Industry Council and Construction Products Association)

242 Ev 263, para 11 (HVCA) and Ev 323, para 3.9-3.17 (SEC Group)

243 Ev 229, para 47 (Constructing Excellence)

244 Ev 203 (Construction Clients' Group)

whether the original investment case for the building has been met and what might have been done differently.[245]

157. Generally, the design and construction team has little incentive to spend time handing over a new building to its new occupant because at that stage their contractual obligations are minimal. Where a building contains a high level of innovative content, the client is often poorly placed to make those innovations work because the construction team has not briefed them on how to do so.[246] The Building Services Research and Information Association (BSRIA) note that if buildings do not function as intended from the outset, this can undermine their performance over their lifetime—"teething problems can become long-term chronic shortcomings".[247] Hence, it recommends setting aside a proportion of the contract value—between 0.25% and 1%—to carry out a 'soft landing' handover.

158. The features of a 'soft landing' should include fine-tuning of the building to iron out any defects, as well as professional aftercare by the designers during the first year of occupancy, for example through energy-use assessment and occupant surveys. As yet, the approach has only been used once for a pilot project at the University of Cambridge. Its benefits there included greater clarity during the briefing and early design stages that reduced re-working by the design team; more effective building readiness; and better feedback to the designers and constructors to improve future buildings.[248] BSRIA told us there is not yet a full methodology that defines the procedures for carrying out a 'soft landing'. It is currently working with the Usable Buildings Trust to develop a toolkit for wider adoption by the construction industry.

159. At present relatively little public sector construction output is subject to any form of post-occupancy evaluation. Tools such as the online Design Quality Indicator (DQI), discussed earlier in this Chapter can assist firms and their clients to assess the quality of their buildings. However, they are not yet used as standard. Where they are, the results have been worrying. The Commission for Architecture and the Built Environment (CABE) has a service level agreement with Partnership for Schools to evaluate the performance of new secondary schools.[249] In 2006 it published results for 52 schools in which it categorised 50% as 'mediocre' or 'poor', 29% as 'partially good', 15% as 'good' and just 4% as 'excellent'. Most of those schools scoring highest had been built in the last year of the study, suggesting that construction teams were applying lessons learnt from earlier projects. Last year CABE also published findings from a national housing audit in which it found 82% of new housing built over the last five years failed to measure up on design quality, with 29% of developments being so poor they should not have received planning permission.[250] Results such as these emphasise the importance of evaluating buildings after completion and using this information to inform future construction work.

245 Q 223 (Constructing Excellence)

246 Q 287 (Building Services Research and Information Association)

247 Ev 173 (Building Services Research and Information Association)

248 Ev 173 (Building Services Research and Information Association)

249 Q 219 (Commission for Architecture and the Built Environment)

250 Ev 199, para 11 (Commission for Architecture and the Built Environment)

160. Post-occupancy evaluation is not a new concept. Indeed, the DTI carried out a number of POE studies in the late 1990s and one of the *Achieving Excellence in Construction* guides focuses specifically on project evaluation. The OGC's Common Minimum Standards also recommend use of the DQI to evaluate project success. However, CABE, Constructing Excellence and others argued that government needs to invest more in monitoring and evaluating the performance of existing and completed buildings in order to provide a feedback loop between project teams and clients.[251] To this end, CABE recommended the development of a 'comprehensive living database' to inform the way in which buildings are designed, constructed and operated. In response, the OGC told us POE would be mandated from April 2008 for all central government clients, through its Property Benchmarking Service, which has been in development since 2006.[252] The initial pilot saw the introduction of a standardised framework for measuring the performance of the government estate against a range of indicators, including workplace productivity and environmental sustainability. The OGC has also set up a database to track performance annually and draw comparisons across departments.

161. Integrated working should give teams an incentive to evaluate their performance and apply lessons learnt to future projects. Greater use of post-occupancy evaluation (POE) has the potential to benefit construction teams, their clients, and future clients through increased use of evidence-based design. We welcome the OGC's decision to mandate POE for central government departments, building on its initial pilot project, although we note that the work is mainly focused on office buildings. Once established, the scheme should be extended to cover all parts of the public sector as soon as possible to collect information on a range of different types of building. We hope the OGC and the industry will be able to use the information gathered to inform the construction of future public sector buildings.

162. Overall, integrated team working can provide the way out of the vicious cycle of adversarial relationships and poor performance that have characterised the construction industry for so long. This Chapter has outlined a number of ways in which this can be facilitated. However, it requires a culture change by all the sector's participants—clients, contractors and sub-contractors. As the single largest construction client, government should be taking the lead in tackling that challenge.

251 Ev 201, para 26 (CABE), Ev 179, para 31 (Buildoffsite), Ev 171, para 25 (BSRIA) and Ev 229 (Constructing Excellence)

252 Qq 625 and 626 (Office of Government Commerce)

5 Fostering social sustainability

163. A socially sustainable construction industry should deliver the best outcomes for its people. For the sector's 2.8 million employees this includes ensuring they are able to work in a safe environment; that they receive the employment rights they are entitled to; and have the opportunity to achieve their full potential. It is also about creating an industry that provides an attractive career prospect for everyone, regardless of gender, age or ethnicity. In this chapter we consider first the issue of 'bogus' self-employment, which is a particular concern in construction. We look then at the sector's current record on the provision of training, and the issue of workforce diversity. Finally, we analyse progress in improving health and safety across the industry and the reasons why the number of deaths in construction has risen sharply in recent years.

Self-employment

164. Over 900,000 people in the construction industry are defined as self-employed—a much higher proportion of the workforce than for other industries. This is in addition to the further 600,000 workers in the informal economy. The status of self-employment defines the relationship between a person and the company they are undertaking work for as subject to commercial rather than employment law. For the individuals concerned, the main motivation is essentially about tax, whereas for contractors engaging self-employed workers, it provides greater flexibility in terms of engagement and contract termination.[253]

165. Although self employment has advantages, it also has drawbacks for both the employee and employer. A self-employed worker does not receive a number of the rights to which a direct employee is legally entitled. These include holiday pay, sickness benefit, pension provision, medical healthcare and occupational healthcare. Furthermore, the Union of Construction, Allied Trades and Technicians (UCATT) told us it is hard to organise health and safety provision for self-employed workers. Not only is the risk of an accident greater, they also do not have the employer protection to ensure their financial well-being in the event of an accident. As the union said, "the family goes on the breadline because there is no back-up".[254] Self-employed workers also have less access to training. Contractors who directly employ their workforce have a greater incentive to invest in their employees' skills so as to make them more productive to the company over time.[255] Too great a dependence on self-employed workers therefore threatens the industry-wide availability of skilled labour in the long term.[256]

166. In general, the unions supported the mandating of direct employment for all public sector construction clients.[257] However, the Minister responsible for construction told us there is "a perfectly proper place for genuine self-employment" and that "how the industry

253 Ev 131, Annex D (BERR)

254 Q 105 (Union of Construction, Allied Trades and Technicians)

255 Ev 311 (Royal Institution of Chartered Surveyors)

256 Unite—the union, *Sustainable Solutions for the Long-Term Supply of Skilled Operatives to the UK Construction Industry*

257 Q 112 (Union of Construction, Allied Trades and Technicians)

organises itself must be a matter for the industry".[258] Government can create the incentives for contractors to take on more direct employees by providing a steadier stream of work for the industry. As we discussed in Chapters 2 and 3, it can do this both through the setting up of framework arrangements and through its long-term construction programmes, such as Building Schools for the Future.[259] In addition, Constructing Excellence told us there are recent signs that firms are rediscovering the competitive advantage of direct employment, through the benefits it brings to their employees and the reflection of this in the quality of the end-product.[260] It remains to be seen whether this trend will continue through the current industry downturn.

'Bogus' self-employment

167. The level of self-employment in construction is so great that the sector has a specific Construction Industry (tax) Scheme (CIS), which sets out the rules for how contractors must handle payments to their sub-contractors—in particular whether they should be categorised as self-employed or direct employees. Sub-contractors defined as self-employed have a standard tax rate of 20% deducted from their payments, although UCATT told us the effective rate can be as low as 9% because workers are able to claim money back for expenses.[261] Directly employed workers, on the other hand, are subject to the same tax regime as all other employees in the UK, paying income tax at the basic rate of 20%. However, they and their employers must also make National Insurance Contributions. Because self-employed workers and their contractors make lower contributions than those for direct labour, there is a financial incentive on both sides for workers to be classified as self-employed. 'Bogus' self-employment is where this tax differential is exploited through the wrongful categorisation of workers as self-employed when, to all intents and purposes, they are actually direct employees. As UCATT put it: "This is a tax subsidy, a tax fiddle, nothing else other than that".[262]

The scale and costs

168. We received a range of opinions on the prevalence of 'bogus' self-employment. UCATT estimated up to one million of the sector's workforce were 'bogus' self-employed—a higher figure than the official estimates for all self-employment in the sector.[263] However, the Minister responsible for construction told us HMRC reckoned the total was closer to 200,000—still just under 10% of the sector's legal workforce.[264] In all likelihood, the wide difference between these figures reflects the contrasting views of the unions and the Government as to what constitutes legitimate self-employment.

258 Q 662 (BERR)

259 Ev 119, para 32 (BERR)

260 Ev 223, para 13 (Constructing Excellence)

261 Q 107 (Union of Construction, Allied Trades and Technicians)

262 *Ibid.*

263 Q 103 (Union of Construction, Allied Trades and Technicians)

264 Q 660 (BERR)

169. UCATT believe the practice is rife across the construction industry, but particularly prevalent among migrant workers. Its own research on Polish workers found almost all to be self-employed, often not getting a choice in the matter as it is a condition of being hired.[265] The union's memorandum states that there have been cases of workers being signed up for 'bogus' self-employment schemes in the UK even before they have left their home country. In addition to not having the employment rights of direct employees, such workers may also experience high and unfair deductions from their wages by employment agencies to cover expenses such as accommodation. Unite argued that migrant workers are often discouraged from talking to union representatives when on site, which makes it difficult for them to access information about their employment rights in the UK.[266] The problem is particularly acute in the South and London where self-employment constitutes 89% of firms and migrants form 42% of the workforce.[267] Although a proportion of these firms represent genuine self-employment, even by the Government's conservative estimates, a sizeable number will be 'bogus' self-employed.

170. Not only does 'bogus' self-employment have implications for the workforce, it also has consequences for clients.[268] For example, in the housing repair and maintenance sector, clients have little opportunity of recourse against companies who supply 'bogus' self-employed labour when they receive poor service. As UCATT told us, "if something goes wrong then the company goes into liquidation and then sets up next week as another company".[269] The client is left high and dry.

171. 'Bogus' self-employment also costs the Exchequer income tax and national insurance contributions. Work undertaken by the University of Manchester for UCATT in 2001 estimated the cost to the Treasury at £1.5 billion a year. Given the sector's expansion in recent years, the union believes this figure could now be closer to £2.5 billion.[270] Taking account of the knock-on effects from greater dependence on the state later in life through lack of pension provision, etc, UCATT believe the overall cost of 'bogus' self-employment could be around £5 billion a year.[271] On the other hand, HMRC calculate the figure as more likely to be around £340 million a year, largely reflecting its lower estimate of the total number of 'bogus' self-employed workers.

Solutions to the problem

172. Despite the fact that 'bogus' self-employment is not only a tax issue, but also a worker and consumer protection concern, we were surprised to hear the Minister responsible for construction tell us that he did not have the levers to deal with the problem.[272] He argued that HMRC, as the Department responsible for the Construction Industry (tax) Scheme (CIS), had the overall lead on tackling 'bogus' self-employment. In April 2007 the

265 Qq 116 and 123 (Union of Construction, Allied Trades and Technicians)

266 Ev 380, para 5.1 (Unite—the union, Amicus branch)

267 Q 579 (BERR) and Ev 259, para 5 (Greater London Authority)

268 Q 330 (Federation of Master Builders)

269 Q 115 (Union of Construction, Allied Trades and Technicians)

270 Ev 374 (Union of Construction, Allied Trades and Technicians)

271 Q 103 (Union of Construction, Allied Trades and Technicians)

272 Q 670 (BERR)

Department introduced a radical overhaul of the Scheme, with the main aim of reducing the number of people abusing the system. Rather than carrying CIS cards to verify their registration with the Scheme, sub-contractors are now required to register online. Contractors must verify directly with HMRC whether a sub-contractor they have taken on is part of CIS in order to gauge how much tax they should deduct from their payments. The intention of this approach is to reduce the 'paper chase' that had characterised the previous system.[273]

173. The new CIS also emphasises consideration of sub-contractors' employment status. Contractors must now submit a monthly return detailing all their sub-contractors paid during the tax month, and certifying that none of them are in fact employees. HMRC has established an online Employment Status Indicator tool, which asks questions of the contractor to establish whether a sub-contractor should be classified as self-employed. It is based on a number of indicators of direct employment:

- the contractor has the right to control what the worker has to do—where, when and how it is done—even if the contractor rarely uses that control;
- the worker supplies only his or her own small tools;
- the worker does not risk his or her own money and there is no possibility that he or she will suffer a financial loss;
- the worker has no business organisation, for example, a yard, stock, materials, or workers; and
- the worker is paid by the hour, day, week or month.

174. This contrasts with the following indicators of self-employment, defined by HMRC:

- Within an overall deadline, the worker has the right to decide how and when the work will be done;
- the worker supplies the materials, plant or heavy equipment needed for the job;
- the worker bids for a job and will bear the additional cost if the job ends up costing more than the worker's original estimate;
- the worker has a right to hire other people who answer to him or her and are paid by him or her to do the job;
- the worker is paid an agreed amount for the job regardless of how long it takes.[274]

175. These criteria are broadly similar to those set out in Unite's own evidence to us.[275] HMRC's guidance also states explicitly that "employment status is not a matter of choice". We received some contrasting views as to whether the new CIS was proving a success. On the one hand, the Construction Confederation thought the new approach was working,

273 Ev 213, para 53 (Construction Confederation, Construction Industry Council and Construction Products Association)

274 HM Revenue & Customs, *Are your workers employed or self-employed? Advice for contractors*

275 Ev 382 (Unite—the union, T&G branch)

although it cautioned that "we have all got to support it, and we have all got to make it work".[276] On the other hand, the unions were highly critical of the new Scheme. Both felt the move towards an online registration system, which has done away with the previous photo card approach would create "a recipe for fraud, confusion and lost payments".[277] They argued that it will now be difficult for employers to discover if an individual presenting themselves for work is the same person registered under the Scheme. However, the Minister responsible for construction told us: "One of the purposes of the new CIS […] is to try and get away from the cards which were often used by individuals to say "Here, I have got a card, I am self-employed"".[278] It seems to us that the success of the new Scheme will largely depend on a combination of contractors honestly assessing the employment status of their sub-contractors, and effective enforcement by HMRC. The Minister also told us that: "In terms of the effectiveness of these operational arrangements it is still quite early days".[279]

176. The unions were also keen to see an extension of the Gangmasters Licensing Regulations to cover the construction industry, citing evidence of increased gangmaster activity in the sector.[280] However, the Construction Confederation felt this would create an additional regulatory burden for employers, most of whom do not use gangmasters directly.[281] BERR told us the conduct of employment agencies and employment businesses in construction was regulated by the Employment Agency Standards Inspectorate (EASI). The *Employment Bill*, which is currently passing through Parliament, will increase the investigative and enforcement powers of the Inspectorate. BERR has also made changes to the regulations governing employment agencies, specifically to address some of the key abuses affecting vulnerable agency workers. In addition, the Minister told us about the Vulnerable Worker Enforcement Forum, which is an industry and government group looking at the nature and extent of abuse of workplace rights for vulnerable workers, including within the construction sector.[282] It is due to report its conclusions in summer 2008.

177. The widespread practice of wrongfully classifying directly employed workers as self-employed, otherwise known as 'bogus' self-employment, creates significant costs for construction workers, clients, the wider industry, and the Exchequer. To tackle the problem, HM Revenue and Customs' Construction Industry (tax) Scheme now places a greater onus on contractors to verify the employment status of their sub-contractors. The success of this new approach will depend on the collective 'buy-in' of contractors. Government must also ensure HMRC has the power and resources to monitor and enforce compliance.

178. We welcome the setting up of the Vulnerable Worker Enforcement Forum and look forward to its recommendations. We hope it will give particular attention to

276 Q 19 (Construction Confederation)

277 Ev 375 (Union of Construction, Allied Trades and Technicians)

278 Q 672 (BERR)

279 Q 672 (BERR)

280 Qq 128 (Union of Construction, Allied Trades and Technicians) and 201 (Unite—the union, T&G branch)

281 Q 62 (Construction Confederation)

282 Q 674 (BERR)

whether the Gangmasters Licensing Regulations should be extended to cover construction workers. More generally, the public sector as client has a major role to play in providing long-term security of work for construction firms, which departments should actively take advantage of. Among the benefits this would bring is a real encouragement for contractors to take on more direct employees.

Training and skills

179. The fragmented structure of the construction industry means that training is one of the areas that particularly suffers. In this section we consider why this is, and the impact this has on the skill levels of the workforce, including the fields where there are currently shortages. We go on to consider the role of the sector skills council, ConstructionSkills, in developing training routes into the construction industry, and providing training for the existing workforce.

The current state of the industry

180. The high level of fragmentation and reliance on sub-contracting in construction, combined with the project-based and itinerant nature of most work, and cyclical demand, create a strong disincentive for firms to invest in their people.[283] The problem is exacerbated by the high rate of self-employment. Whether 'bogusly' self-employed or not, firms are more likely to invest in their workers if they are directly employed. This is borne out by the strong geographical correlation between self-employment levels and the provision of training. Several witnesses, including the Minister, noted that firms in Scotland and the north of England continue to use predominantly direct employment and train their workers, but that there was comparatively little employer-led training taking place in London and the South East where self-employment levels were much higher.[284] Unite told us the culture has become one where companies "buy skills off the peg", relying on migrant labour from Eastern Europe to fill skills gaps, rather than train domestic workers.[285] This approach is unsustainable in the long run.

181. The Confederation of British Industry (CBI) told us a shortage of skilled labour was a key issue for almost two-thirds of firms in construction.[286] Areas of short supply include mechanical and electrical engineers, project managers, building control, specialist tradesmen and assessors, and quantity surveyors.[287] An additional challenge is that the skills needs of the sector are evolving. The development of modern construction methods and an increasing demand for environmentally sustainable buildings require workers to develop new skills.[288] The industry's slow response to these changes, in part, contributes to

283 Ev 154, para 4 (Association of Colleges and British Association of College Heads) and Ev 306, para 8.2 (Linda Clarke)

284 Qq 142 (ConstructionSkills), 305 (Federation of Master Builders), 420 (Home Builders Federation) and 593 (BERR); Ev 376 (Union of Construction, Allied Trades and Technicians)

285 Q 191 (Unite—the union, T&G branch)

286 Ev 184, para 36 (Confederation of British Industry)

287 Ev 294 (New Civil Engineer), Ev 213, para 48 (CC, CIC and CPA), Ev 286 (National House Building Control), Ev 290, para 5.C.c (National Specialist Contractors' Council) and Ev 269, para 15 (Home Builders' Federation)

288 Ev 180, para 36 (Buildoffsite), Ev 120, para 43 (BERR) and Ev 306, para 7.1 (Linda Clarke)

a lower level of labour productivity in UK construction, compared to the USA and France.[289]

ConstructionSkills and the Levy

182. ConstructionSkills is the sector skills council for construction. It represents all parts of the industry's workforce, from architects to bricklayers, and covers all parts of the skills agenda. It is an independent body, managed and operated by employers from the industry, which acts as the main interface between the bodies responsible for delivering training in the UK, and those that demand it. Its priorities include increasing the quality and quantity of new recruits; improving understanding of career opportunities in construction; increasing apprenticeship completions; and promoting diversity.[290]

183. The lead partner in ConstructionSkills is the Construction Industry Training Board (CITB), branded CITB-ConstructionSkills. It is one of only two remaining statutory training boards established in 1964, which gives it the power to raise a levy on employers to fund training. There is a tendency in the sector for smaller firms to train most new entrants, and for them to go on to work for the industry's larger firms later in their careers. The CITB-ConstructionSkills Levy provides a means for those larger firms to pay towards the cost of training the new entrants, which they subsequently benefit from. Employers with a total wage bill exceeding £76,000 must pay the Levy, which is set at 0.5% of the salaries for direct employees, and 1.5% of the value of payments for labour-only sub-contractors. The higher rate for sub-contractors is meant to provide an incentive for firms to employ workers directly. The £76,000 threshold also exempts smaller firms from paying, although they are still able to claim grants to fund training. In 2006, firms which did not pay any Levy employed over 10,800 new entrant trainees.

184. The Levy provides the main source of income for ConstructionSkills. In 2007 it distributed almost £137 million in grants for firms to, for example, take on new apprentices or train-up their existing workforce. The Sector Skills Council estimates that the benefit to the industry of these grants equates to £2.03 for every £1 of Levy collected.[291] CITB-ConstructionSkills requires parliamentary approval for it to continue raising Levy funds, and this is subject to it retaining the support of the majority of firms that have to pay it. ConstructionSkills told us that currently about 70% to 75% of the industry support the Levy.[292] The CBI stated that: "The sector is an example of how a training levy can work effectively where there is employer buy-in".[293]

185. The structure of the construction industry and the nature of its work create disincentives for many employers to invest in training and skills. The CITB-ConstructionSkills Levy provides an effective means of tackling this problem, which has the support of the majority of those who pay it. The Levy provides a vital means of

289 Ev 244, para 1.5.4 (Davis Langdon)

290 Ev 237, para 3.1 (ConstructionSkills)

291 ConstructionSkills, *Annual Review 2007*

292 Q 173 (ConstructionSkills)

293 Ev 188, para 58 (Confederation of British Industry)

funding for training, which contributes to the long-term skills needs of the sector. We support its continued use.

Training routes into construction

186. At every entry level, there is a difficulty getting new recruits into a career in construction. At the graduate end of the workforce, young people do not perceive construction as an attractive career destination. As the Royal Institution of Chartered Surveyors puts it: "The fact remains that students, their parents and the media continue to see construction as a less appealing career option than law or medicine".[294] The Construction Industry Council voiced its frustration at this, given the general public's view of the sector's output is usually very positive—the association is not made with the quality of the people that deliver it.[295]

187. One way in which the Government has sought to engage schoolchildren in construction as a potential career choice has been to introduce the subject to the 14–19 curriculum. In 2003 the then Department for Education and Skills approved the idea of piloting a GCSE in Construction and the Built Environment (CBE). The first intake began in September 2005, and in 2007 over 1,200 students completed either a single or double award in the subject. However, in November 2007 Edexcel, the body piloting the initiative announced that that it would withdraw the GCSE in order to focus its resources instead on the Government's new CBE Diploma. The last examination for the GCSE will be in 2010. The Minister responsible for construction did not seem to be aware of this development in January 2008 when he highlighted the role of the GCSE in getting young people into the industry.[296]

188. The main reason for abandoning the GCSE was because of concerns over the potential overlap with the CBE Diploma. The Government is introducing this in certain schools from September 2008, alongside diplomas in four other fields, all of which are designed to provide an alternative vocational route for schoolchildren into employment, further training or higher education. The Diploma covers a wide range of different industries within construction, such as architecture, structural steelwork, painting and decorating, glazing, and surveying. It will be available at three levels—Foundation (equivalent to 5 GCSEs below grade C), Higher (equivalent to 5 GCSEs above grade C) and Advanced (equivalent to three A-Levels). The courses will include compulsory elements such as functional maths, English and ICT, as well as team-working and self-management skills. Students will also be required to undertake a minimum of 10 days' work experience. The CBI was supportive of the new diplomas, highlighting the fact that they seek to develop generic 'employability skills', which firms too often find lacking in school leavers.[297] However, there have been some concerns about the complexity of the diplomas and the extent to which schoolchildren will favour them over academic qualifications.[298]

294 Ev 314, para 7.3A (Royal Institution of Chartered Surveyors)

295 Qq 27 and 97 (Construction Industry Council)

296 Q 583 (BERR)

297 Ev 186, para 43 (Confederation of British Industry)

298 See for example, The Times, *New diplomas 'are doomed to fail'*, 8 March 2008

189. Given that migrant labour is unlikely to provide a stable long-term solution to the skills needs of the construction industry, it is vital to attract more domestic recruits to the sector. The initial take-up for the now abandoned Construction GCSE suggests there is an appetite within schools to engage with the industry early on. We support the development of the new Construction and Built Environment Diploma and hope that it will provide a credible qualification and entry route for those considering a career in construction, as well as meeting the skills needs of employers. Given the importance of developing skills in this vital sector of the economy, its effectiveness must be rigorously and regularly reviewed.

190. Construction employees currently take a variety of training routes into the industry, perhaps the most traditional of which is through an apprenticeship. This is a structured three-year programme that combines a mix of college-based training and paid work experience with a sponsoring employer. Those completing the scheme earn a Construction Award (for craft entrants) or a National Certificate (for technical entrants) as well as a National Vocational Qualification (NVQ) at either Level 2 (equivalent to 5 GCSEs at A to C) or 3 (equivalent to 2 A-Levels), depending on the apprenticeship. In 2007 the Strategic Forum for Construction reported that 8,289 people completed apprenticeships in England, Scotland and Wales—a fraction of the level achieved during the 1970s. It currently has a target to increase the annual rate of completion to 13,500 a year by 2010, and the new industry targets extend this to 18,700 in 2012.

191. In contrast to the difficulty of attracting graduates into the industry, ConstructionSkills told us there is no shortage of young people wishing to enter the sector as an apprentice. Rather, the difficulty lies in finding an employer willing to sponsor them.[299] In the past four years there has been a gradual fall in the number of employers recruiting apprentices, and the number of apprentices taken on by each employer.[300] Both the unions expressed concern that of some 50,000 young people who applied for apprenticeships in 2006 only 9,000 secured places with employers. In 2007, the figure dropped to 7,000.[301] Unite said: "We should be talking about an 'investment shortage' not a 'skills shortage'".[302] This was also a big concern for ConstructionSkills which estimated that between 7,500 and 10,000 young people on construction further education courses do not have a sponsoring employer. Without this, they do not get any site experience, they cannot get an NVQ, and cannot complete an apprenticeship framework.[303] BERR told us "the active participation of companies is crucial to an effective apprenticeship programme" and that "we cannot deliver apprenticeships by ourselves".[304] Yet only around a quarter of construction companies are directly engaged in training apprentices. The industry will need to more than double its current level of provision if it is to meet its 2012 target.

192. In response to the problem of finding employers to sponsor full apprenticeships, ConstructionSkills have developed the concept of 'programme-led' apprenticeships (PLAs)

299 Q 149 (ConstructionSkills)

300 ConstructionSkills, *Annual Report 2007*

301 Ev 376 (Union of Construction, Allied Trades and Technicians)

302 Ev 381, para 7.1 (Unite—the union, Amicus branch)

303 Q 149 (ConstructionSkills)

304 Ev 134, Annex F, para 11 and Q 595 (BERR)

in England. This approach essentially front-loads the college-based element of apprenticeship training, with new recruits first completing a full-time Intermediate Construction Award (ICA) before then being placed with an employer to gain on-site experience. The sector skills council has developed PLAs to allow firms who are not able to support someone through a typical apprenticeship framework to still take on trainees.[305] The approach is a key part of the drive to increase the number of completions, though, its annual report states that uptake so far has been slower than expected, despite praise for the initiative by many employers.[306] However, the scheme is still in its early days, and ConstructionSkills have a target to place 1,000 young people with PLAs by the end of 2008.

193. ConstructionSkills were also keen to see greater flexibility in the way in which government allowed it to deliver apprenticeships. One area of concern was the growing need for specialist trades throughout the supply chain and the sector skills council's inability to meet this demand because of the higher cost of training.[307] It is currently seeking to pilot Specialist Apprenticeships in response to this. Another difficulty is the absence of significant resources to support adult learners entering training because the Government's emphasis is on those in school and further education.[308] Current policy towards publicly-funded apprenticeships assumes that employers will pay a greater share of the costs for those over 19.

194. It is a disgrace that only a quarter of construction companies are training apprentices. We support ConstructionSkills' efforts to provide more flexible routes to on-site experience for trainees and their sponsors, such as through programme-led apprenticeships. Employers must now do their part by taking on more apprentices, tapping into the large number of people who want to work in the sector. The Government should also review its support for adult learners and specialist trades to provide greater flexibility of training provision to meet the needs of the construction industry.

Training the existing workforce

195. BERR told us that, historically, the construction workforce has been largely unqualified, with workers building up their skills through experience on the job.[309] Approximately 55% of the workforce is below the standard of an NVQ Level 2 or equivalent, and 11.2% hold low or no qualifications.[310] However, in recent years there has been an industry drive towards creating a fully qualified workforce, both as a means of improving the quality of output, and raising health and safety standards. The Construction Skills Certification Scheme (CSCS), introduced over ten years ago, has been the primary means of achieving this. It issues different types of card to its members, depending on the experience and qualifications of the individual, ranging from a trainee working towards an

305 Q 149 (ConstructionSkills)

306 ConstructionSkills, *Annual Report 2007*

307 Ev 237, para 2.12 (ConstructionSkills)

308 Q 161 (ConstructionSkills)

309 Ev 120, para 40 (BERR)

310 Ev 155, para 5 (Association of Colleges and British Association of College Heads) and Ev 132, para 14 (BERR)

NVQ Level 2 or 3, to a senior manager at NVQ Level 5. All the cards require the holder to have passed a health and safety test.

196. The industry has set itself a target to achieve a fully trained, qualified and competent workforce on all projects by 2010 as demonstrated by take-up of CSCS. All parts of the sector have bought in to the Scheme, including main contractors, specialist contractors and home builders.[311] ConstructionSkills has played an important role through its On-Site Assessment and Training programme, which helps experienced workers get the qualifications to prove their competency and gain a CSCS card. Overall, the sector skills council reports that 48,000 workers achieved a Vocational Qualification in 2007.[312] Elsewhere, it has also recently established the National Skills Academy for Construction, part of which includes the setting-up of portable training centres located on or near the site of large construction or infrastructure projects. ConstructionSkills told us it had 8 project sites already up and running, with a total of 52 in the pipeline, including the Olympic construction sites.[313]

197. To date over 1.2 million CSCS cards have been issued and coverage of the industry's workforce is estimated at about 80%.[314] Government, too, has stated its support for the Scheme. The Office of Government Commerce's Common Minimum Standards for construction procurement stipulate that contracts should contain a clause requiring all workers involved in the supply team to be registered on the CSCS, or able to prove competence in some other appropriate way. Yet the National Specialist Contractors' Council told us many public sector clients are not enforcing this requirement. Contractors who have not committed to the Scheme are still being invited to tender for projects, while workers are allowed on sites without a CSCS card or with inappropriate cards. This can frustrate those contractors and sub-contractors that have expended resources achieving a fully carded workforce.

198. There has been considerable progress in raising the skill levels of the existing construction workforce. We welcome the establishment of the National Skills Academy for Construction and support its project-based approach to delivering training. We also commend the high level of take-up of the Construction Skills Certification Scheme (CSCS) and hope the industry will be able to achieve 100% coverage by 2010. However, clients must play their part in reaching this target. Public sector clients in particular should adhere to the Common Minimum Standards, and contractually oblige their supply teams to ensure their workforces are CSCS-carded. Contractors not committed to the Scheme should not be invited to tender for work.

Workforce diversity

199. The average construction worker in the UK is white and male. Women make up only 10% of the industry's workforce and just 1% in the manual trades.[315] Similarly, ethnic

311 Q 415 (Home Builders Federation); Ev 293 (National Specialist Contractors' Council) and Ev 135, para 17 (BERR)

312 ConstructionSkills, *Annual Review 2007*

313 Q 163 (ConstructionSkills)

314 Ev 219 (Construction Products Association)

315 Ev 120, para 39 (BERR)

minorities account for only 3% of craftspeople—significantly below the workforce average of 8%.[316] Although representation at the professional end of the sector is a little better, the proportion of women and ethnic minorities is still well below the national average.[317] Workers with disabilities constitute 13% of the construction workforce, although the fact that almost 19% of the working-age population are disabled suggests this figure could potentially be higher.[318] Overall, construction is one of the most heavily segregated sectors in the UK.

200. The 'casualisation' of the industry was seen as a primary reason why women and ethnics minorities are underrepresented in the industry. Unite told us the sector's 'hire and fire' culture, with employment opportunities being predominantly through word-of-mouth or family connections, tended to exclude ethnic minority groups.[319] The Equal Opportunities Commission stated that the industry's long hours culture and its inflexible working times often precluded women, or those with caring responsibilities, from entering construction.[320] As noted in the previous section, funding streams for training also tend to favour young people over adults, therefore excluding groups that are more likely to enter the industry later in life.[321] The Institution of Civil Engineers told us women and ethnic minorities experience "marginalisation, discrimination, disempowerment, prejudice and 'glass ceilings' to their career progression".[322] The problem is reinforced by the negative image of the industry as one that does not welcome diversity.

201. The Commission for Racial Equality estimates that in the next six years only 20% of the UK workforce will consist of the white, non-disabled men who have traditionally constituted the construction industry's workforce.[323] If the sector is to avoid capacity constraints it needs to attract those groups not engaged in construction at present. The Equal Opportunities Commission cited survey evidence that 12% of schoolgirls were interested in working in construction.[324] Though low, this is still slightly higher than the current proportion of women in the sector's workforce. The Commission stated also that eight out of ten employers thought a better gender mix would provide a wider range of skills and talents.

202. The new Construction Commitments emphasise the importance of providing equal opportunities and encouraging a diverse workforce. ConstructionSkills and CABE have both recently run campaigns aimed at changing attitudes towards the industry to help draw in atypical recruits.[325] The sector skills council also told us about a programme it had funded that placed 600 people, who were either female or of an ethnic minority, for a 13-week trial period with small and medium-sized employers in construction. In addition, it

316 Ev 237, para 2.11 (ConstructionSkills)

317 Ev 315, para 7.3B (Royal Institution of Chartered Surveyors)

318 Labour Force Survey

319 Q 182 (Unite—the union, T&G branch)

320 Ev 251, para 22 (Equal Opportunities Commission)

321 Q 195 (Unite—the union, T&G branch)

322 Ev 272, para 4.5 (Institution of Civil Engineers)

323 Ev 273, para 4.6 (Institution of Civil Engineers)

324 Ev 249 (Equal Opportunities Commission)

325 Ev 200, para 16 (Commission for Architecture and the Built Environment); Q 154 (ConstructionSkills)

has worked with housing associations and registered social landlords, encouraging more diverse recruitment with their framework sub-contractors. Furthermore, its National Skills Academy for Construction will draw greater involvement from underrepresented groups. Elsewhere, the Prince's Trust told us its 'Get Into Construction' scheme had helped a small number of women and ethnic minority workers gain experience of the industry.[326] In the future, the introduction of the Construction and Built Environment Diploma should also help change perceptions of the sector amongst schoolchildren.

203. However, there is clearly still more to do to address the gender and racial imbalance in the construction workforce. Both the CBI and the Equal Opportunities Commission highlighted the need for better careers advice that sought to challenge traditional occupational stereotypes.[327] The introduction of more flexible working should also attract atypical recruits. As the largest client of construction work, the public sector could play a significant role in creating a more diverse workforce. We note that the Office of Government Commerce's Common Minimum Standards for construction procurement do not currently refer to diversity issues.

204. The vast majority of the construction workforce is white and male. This means there is a potentially huge pool of untapped talent which could relieve capacity constraints in the sector, and make the composition of its workforce more representative of wider society. Government as client to the sector is in a powerful position to effect change by ensuring contractors provide employment opportunities to atypical recruits. We welcome the explicit inclusion of promoting a diverse workforce in the industry's new Construction Commitments. We recommend that the Government strengthens this by making equal opportunities part of the Common Minimum Standards for public sector construction procurement.

Health and safety

205. The construction industry accounts for almost a third of workplace fatalities in the UK, even though it accounts for less than a tenth of the overall economy.[328] Improving the sector's health and safety record has accordingly formed a key part of the industry reform agenda in recent years. The Construction Confederation told us: "Any single accident is an accident too many".[329] Indeed, health and safety forms one of the six pillars of the new Construction Commitments, and the new industry-wide targets include the aim of achieving year-on-year a 10% reduction in construction fatalities and major injuries up to 2012.[330] The Construction Products Association believe this would mean a fatal injury rate of 2.3 deaths per 100,000 workers in 2010, down from 3.7 in 2006/07. The Strategic Forum has also set targets to reduce cases of work-related ill-health and to increase the availability of occupational health support. The Department for Work and Pensions' sponsored Health and Safety Executive (HSE) is responsible for monitoring the construction industry's compliance with health and safety legislation. It also conducts research,

326 Ev 301 (The Prince's Trust)

327 Ev 252, para 31 (Equal Opportunities Commission) and Ev 186, para 47 (Confederation of British Industry)

328 National Statistics, *Health and safety statistics 2006/07*, November 2007

329 Q 57 (Construction Confederation)

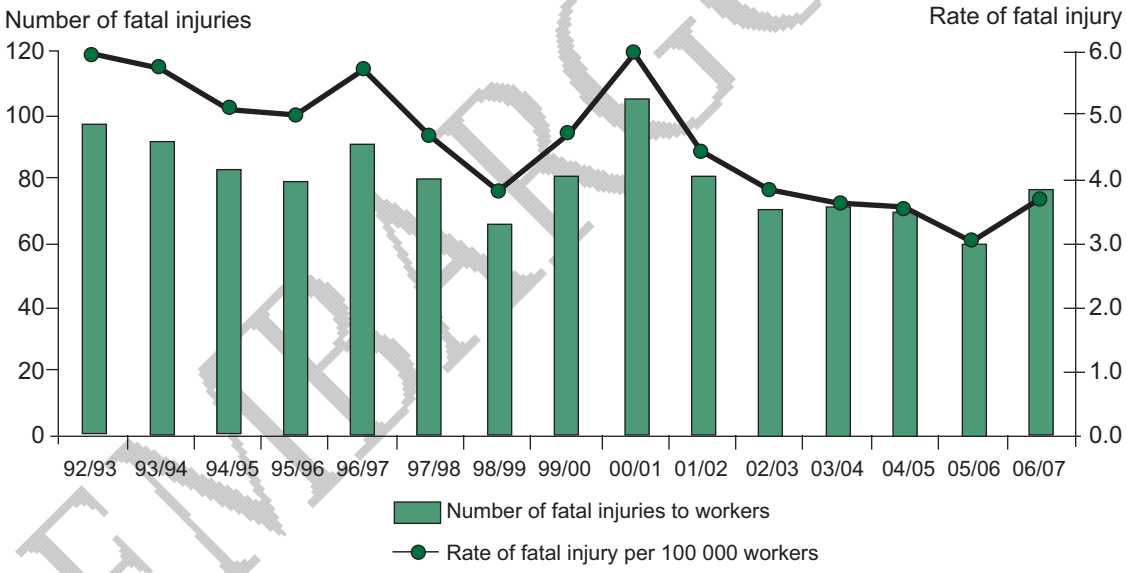
330 The target's baseline is 2000.

promotes training, provides an advisory service, and can submit proposals for new or revised regulations and approved codes of practice.

Recent trends

206. The UK's performance in construction health and safety compares favourably with the rest of Europe. In 2003, the latest year for which figures are available, the fatal injury rate for the UK was 3.6 per 100,000 workers, compared to an EU average of 10.6.[331] Figure 1 below shows the sector's performance over the past 15 years. 2001 marked a turning point. A large increase in fatalities in the late 1990s prompted the then Deputy Prime Minister to convene an industry-wide summit at which he called on the sector to improve its record or else face legislation. Since then, working with the HSE, the industry has made considerable efforts, with the result that there has been a gradual decline in the number of fatalities from a peak of 105 in 2000/01 to 60 in 2005/06.[332] A key initiative has been the commitment to a fully qualified workforce by requiring all employees to have registered on the Construction Skills Certification Scheme (CSCS), discussed earlier, which includes a health and safety test. ConstructionSkills report that 1.5 million workers have passed the test to date.[333]

Figure 1: Number and rate of fatal injuries to workers in construction



Source: Health and Safety Executive

207. However, 2006/07 saw an increase in the number of fatalities from 60 to 77—the highest rate since 2001/02 and a rise of 28% on the previous year.[334] More than half of those deaths were the result either of a fall from a height, or being hit by a moving or falling object. In April 2008, the HSE reported provisional figures suggesting 69 workers had died in 2007/08.[335] Although this is a 10% improvement on the previous year, it is still above the

331 Ev 136, para 6 (BERR)

332 Qq 57 and 59 (Construction Confederation)

333 ConstructionSkills, *Annual Review 2007*

334 Health and Safety Commission, *Statistics of Fatal Injuries 2006/07*

335 Health and Safety Executive, *HSE urges construction industry to do more to prevent deaths at work*, 9 April 2008

2005/06 level. It is not clear at this stage whether these figures for the past two years mark a change in the long-term trend, or if they have been very unfortunate blips.

208. We asked witnesses what lay at the root of the rise in construction fatalities. The National House Building Council noted in its evidence that the increased use of migrant workers in the UK might present a risk if they were not able to communicate well in English and therefore understand health and safety training.[336] However, the Construction Confederation told us migrant workers operated under exactly the same regime as other operatives on major construction sites, and that they had to undergo the same induction training and wear the same personal protective equipment (PPE).[337] BERR also told us that out of the 77 deaths in 2006/07, five were migrant workers—6.5%.[338] This is slightly less than the overall percentage of migrant workers within the construction workforce as a whole.

209. BERR and several of the industry representatives we spoke to highlighted the fact that the recent rise in fatalities has occurred largely amongst smaller firms operating in housing repair and maintenance.[339] According to the HSE over half of construction deaths in 2006/07 occurred in that sector—up significantly on the previous year.[340] However, it is not yet clear why this is the case. The Federation of Master Builders (FMB) noted that the size of the sector has grown from £12.8 billion in 2002 to £15.8 billion in 2006.[341] The Government's own memorandum to the Committee argues that the level of economic activity in the construction industry will inevitably put more pressure on the workforce, which could lead to a deterioration in health and safety performance.[342] The fact that barriers to entry are lower for workers and firms in the housing repair and refurbishment sector, and over half of construction activity is in the black economy, must also be contributing factors. Yet this does not explain why in previous years the number of fatalities had been falling, and the particular jump within repair and maintenance in 2006/07.

Tackling the repair and maintenance sector

210. In response to mounting concern over the increase in construction deaths, the Secretary of State for Work and Pensions called an industry-wide 'Forum' in September 2007 to discuss ways of addressing the problem. The forum agreed various areas of action, aimed specifically at the housing repair and maintenance sector. These included: raising levels of competence by encouraging all workers in house-building to carry a CSCS card; improving the way employers engage and consult with the people they manage; and steps

336 Ev 285 (National House Building Council)

337 Q 58 (Construction Confederation)

338 Q 680 (BERR)

339 Qq 59 (Construction Confederation), 206 (Unite—the union, T&G branch) and 676 (BERR); Ev 151, para 2.4 (ARUP)

340 Health and Safety Executive, *1,000 spot checks of refurbishment sites across Great Britain*, 6 February 2008

341 Q 301 (Federation of Master Builders)

342 Ev 136, para 8 (BERR)

to drive out the informal economy. The Strategic Forum's Health and Safety Task Group was asked to co-ordinate implementation of the proposals.[343]

211. BERR told us the size of the informal economy contributes to the challenge the Government faces in trying to improve standards in the repair and maintenance sector. The HSE's strategy for policing health and safety is to prioritise those areas that present the highest risk, therefore, deploying its resources were they can be used most effectively.[344] It has a dedicated Construction Division that looks solely at the sector, and construction accounted for 40% of its prosecutions in 2005/06. The agency also adopts a risk-based approach within industries. In February 2008 it specifically targeted construction refurbishment sites, carrying out over 1,000 spot checks across Great Britain. Inspectors immediately stopped work on 30% of the sites visited because health and safety standards were so low they put the lives of workers at risk. The Chief Executive of the HSE stated: "Our inspectors were appalled at the blatant disregard for basic health and safety precautions".[345]

212. Despite the HSE's risk-based focus, several witnesses raised concerns over the level of sanctions the agency imposes, and its overall staffing levels. On the first of these, the unions in particular wished to see much harsher penalties for contractors found to be in breach of health and safety regulations. Unite told us the average fine in construction in 2006 fell to a "disgusting" £8,400.[346] UCATT went further, stating that "deaths on construction sites will not substantially decrease until an individual director is sent to prison for their involvement in killing an employee".[347] By contrast, the Construction Products Association told us the HSE did have strong sanctions through its ability to close a site immediately.[348] The *Corporate Manslaughter and Corporate Homicide Act 2007* created a new offence from April 2008 for convicting an organisation where a gross failure in the management of health and safety results in a person's death. Found guilty, an organisation is liable to an unlimited fine. They may also be required to publicise the details of their conviction and fine. Individuals cannot be prosecuted under the Act, although legislation already exists to prosecute those culpable of gross negligence manslaughter and health and safety offences.[349]

213. Given that sanctions exist to punish those in breach of health and safety regulations, a more important consideration for construction contractors is likely to be the probability of inspection in the first place. We were shocked to hear that on average an employer will receive a visit from an HSE inspector only once in every 13 years.[350] Despite more than 270,000 construction firms operating in the UK, the agency had only 124 operational construction inspectors in 2007/08, with just 18 to cover the whole of London.

343 Department for Work and Pensions, *Hain and construction sector vow to cut deaths*, September 2007

344 Q 686 (BERR)

345 Health and Safety Executive, *Unacceptable performance by refurbishment sector of the construction industry*, March 2008

346 Ev 383 (Unite—the union, T&G branch)

347 Ev 377 (Union of Construction, Allied Trades and Technicians)

348 Q 61 (Construction Products Association)

349 Ministry of Justice, *Understanding the Corporate Manslaughter and Corporate Homicide Act 2007*, October 2007

350 Q 295 (Federation of Master Builders)

Furthermore, many witnesses expressed their concern to us that the number of HSE staff has been cut in recent years.[351] Since 2003, the agency's Field Operations Directorate has seen a 17% reduction in staff.[352] Within construction, there are now 10 fewer front-line inspectors than in 2005/06.[353] The Minister responsible for construction told us the HSE would "vigorously refute" the suggestion that any changes they had made might have contributed to the recent trend in construction fatalities.[354] Whilst we do not wish to suggest this is the case, it seems illogical to argue that the number of inspections has no effect on health and safety standards. Indeed, the HSE's own recent campaign on the repair and maintenance sector highlights the importance of inspections. Our colleagues on the Work and Pensions Committee recently reached the same conclusion.[355]

Driving culture change

214. Whilst we believe inspection is important, particularly for the housing repair and maintenance sector, creating a culture of health and safety is ultimately the most effective means of reducing workplace deaths and injuries. Both government and the formal industry have in recent years worked to engender this culture change, although there is clearly further progress to be made.

215. One of the most important recent developments has been the introduction of the new Construction, Design and Management (CDM) Regulations 2007. These aim to improve health and safety in construction by placing a greater emphasis on effective planning and risk management at the outset of a project, as well as reducing paper work and encouraging team work.[356] The Specialist Engineering Contractors' (SEC) Group told us that up to 60% of fatalities on construction sites can be attributed to choices made before work on site begins.[357] The CDM Regulations place shared legal duties on virtually everyone involved in construction projects—clients, designers, contractors, sub-contractors, and workers—recognising that improved health and safety performance requires the engagement of all stakeholders. The new regulations have been generally well-received by the industry.[358] The Construction Confederation said "it is a great piece of regulation".[359] The primary reason for this is that CDM increases the role of the client in ensuring adequate consideration of health and safety, and also promotes integrated team working. Indeed, the only critic of the Regulations was the industry body that represents clients.[360] The Construction Clients'

351 Qq 61 (Construction Products Association), 295 (Federation of Master Builders); Ev 211, para 27 (Construction Confederation, Construction Industry Council and Construction Products Association) and Ev 383 (Unite—the union, T&G branch)

352 www.hse.gov.uk/aboutus/reports/staff.htm

353 House of Commons Work and Pensions Committee, Third Report of Session 2007-08, *The role of the Health and Safety Commission and the Health and Safety Executive in regulating workplace health and safety*, HC 246, April 2008

354 Q 686 (BERR)

355 *Op. Cit.*

356 Ev 136, para 5 (BERR)

357 Ev 318, para 1.5 (Specialist Engineering Contractors' Group)

358 Ev 210, para 24 (Construction Confederation, Construction Industry Council and Construction Products Association); Ev 151, para 2.3 (ARUP) and Ev 277, para 9.1 (Institution of Civil Engineers)

359 Q 62 (Construction Confederation)

360 Ev 206 (Construction Clients' Group)

Group (CCG) had a legitimate concern that the CDM Regulations had not been drafted to enable small, infrequent clients to comply with their obligations. The CCG is currently working on a proposal to help resolve this issue. It is also disappointing that the Approved Code of Practice, which provides practical guidance on complying with the Regulations, is not free to download from the HSE website. Instead, it is available by mail order at a cost of £15. This can only hamper the dissemination of good practice on compliance.

216. Whilst the CDM Regulations provide the legal basis for much greater client involvement, there are additional ways in which procurers, particularly the public sector, can show leadership in promoting health and safety. For example, considering whole-life, by definition, requires the factoring in to the planning process of heath and safety concerns. The long-term benefit is a reduction in the costly delays that arise from accidents. The Construction Skills Certification Scheme (CSCS) is also an important driver of health and safety. As noted above, the OGC requires all workers on public sector construction sites to have registered for the Scheme. Sir Michael Latham, Chairman of ConstructionSkills, however, expressed his surprise that this is not enforced.[361] The Construction Confederation also cited survey evidence that only 52% of respondents were required to undergo a health and safety assessment during the bidding process for public sector projects. Whilst there are some examples of best practice, such as Jobcentre Plus, Defence Estates and Birmingham City Council, it described government's performance as at best "patchy".[362]

217. Yet government's purchasing power cannot foster culture change in the housing repair and maintenance sector, where homeowners are not subject to the CDM Regulations and are not likely to be aware of the Construction Skills Certification Scheme. Here, only radical steps to address the size of the informal economy are likely to improve the sector's health and safety record. The Construction Confederation noted that "domestic consumers continue to be attracted to cheap cash deals".[363] Its proposal is to reduce the rate of VAT on all repair and maintenance work to 5% so as to remove the competitive advantage of those who avoid registration for VAT. Some parts of the sector already benefit from a reduced rate, such as conversion of residential buildings to a different residential use, and for the installation of microgeneration technologies. Given that over half the sector operates in the informal economy, the Federation of Master Builders argued that such a move could actually increase the overall amount of tax revenue from the sector.[364]

218. We welcome the Strategic Forum's commitment to ambitious targets for reducing the number of workplace fatalities and major injuries over the coming years. After a period of steady decline in construction fatalities since the turn of the century, the number of deaths has increased significantly since 2005/06. Housing repair and maintenance has had the worst record, primarily because so much of the sector operates in the informal economy. To tackle this the Health and Safety Executive must devote more resources to inspection, whilst HM Treasury should look at ways of

361 Qq 153 and 165 (ConstructionSkills)

362 Ev 211, para 27 (Construction Confederation, Construction Industry Council and Construction Products Association)

363 *Ibid.*

364 Q 310 (Federation of Master Builders)

reducing the size of the informal economy, for example by conducting a full analysis of the overall consequences of cutting the rate of VAT on all repair and maintenance work.

219. More generally, government as client has a vital role to play in improving performance. The Common Minimum Standards already state that clients should ensure all contractors are assessed for health and safety when tendering for work, and all workers should be registered on the Construction Skills Certification Scheme. But this is not happening. The new Construction, Design and Management (CDM) Regulations 2007 place a much greater emphasise on the client's role in ensuring health and safety, whilst the Corporate Manslaughter and Corporate Homicide Act 2007 provides the punishment in the event of a fatality due to organisational failings. The Government should use both of these to enforce a change of approach in public sector construction procurement, and to drive culture change across the sector.

6 Achieving environmental sustainability

220. A sustainable construction industry is one that seeks to minimise the impact on the environment of both the construction process and the end-product itself. As the third part of the sustainability 'triple bottom line', there is now growing recognition that construction has a major role to play in tackling climate change. The Government and industry's joint *Strategy for Sustainable Construction* has set the agenda for industry improvement over the coming years. As part of this, the sector has set itself some challenging targets to reduce its environmental impact. One of the six pillars of the Construction Commitments deals specifically with sustainability. One of the biggest difficulties the industry now faces is in creating a culture where environmental concerns are viewed as an integral part of the construction process and delivery of the end-product, and not as a costly added extra.

The construction process

221. In recent years, the industry has made significant progress in reducing the environmental consequences of the construction process, largely because it has had a clear economic incentive to do so. In this section we look at the ways in which the construction process has improved, first by considering what has been done to reduce the amount it wastes. Then we look at how the sector is decreasing its energy and water consumption, and current efforts to reduce the social cost of construction work caused through disruption to local communities.

Cutting waste

222. Construction and demolition accounts for almost a third of all waste generated in the UK each year.[365] This would be even greater were it not for the comparatively high level of recycling. Out of the 120 million tonnes of construction waste produced every year, 65 million tonnes are recycled, mainly as aggregates. A further 35 million tonnes (mainly inert excavation waste) are used for landfill engineering or quarry restoration. The remaining 20 million tonnes go to landfill.[366] This figure has fallen significantly in recent years because the Government has increased the cost of landfill through taxation. As part of its *Strategy for Sustainable Construction* the Government has set a target for 2012 to reduce the amount of construction, demolition and excavation waste to landfill by 50% on 2008 levels—a reduction of 10 million tonnes per year. This will need to be achieved through a combination of reduced wastage, more recycling, and greater use of recovered materials.

223. In 1996 the then government introduced the Landfill Tax Levy. This was initially set at a standard rate of £7 per tonne for active waste (which either decays or contaminates land) and £2 per tonne for inert material, such as rocks and soil. Over the years the standard rate has increased to its current level of £32 per tonne. From April 2008 to at least 2010, the Government has stated its intention to further increase the standard rate by £8 each year to £48 for the 2010/11 tax year. Landfill operators are liable for the tax. Under the Landfill Tax Credit Scheme, they can contribute up to 6.6% of their tax liability to environmental

365 Ev 278, para 10.3 (Institution of Civil Engineers)

366 www.wrap.org.uk

bodies, and reclaim 90% of this as a tax credit. To date landfill operators have given almost £1 billion to around 2,300 organisations for a variety of local environmental projects.

224. The construction industry was generally supportive of the Landfill Tax Levy and saw it as providing an important economic incentive to reduce the amount of waste that goes into landfill, and invest more in recycling facilities. This is particularly the case for larger companies and frequent construction clients, who need a systematic approach to waste management. The Construction Products Association said that it had been a "successful tax", and also praised the fact that the Government has clearly stated its intention to ramp up the Levy rate over the coming years, thus giving the industry time to invest in its ability to reduce the amount it sends to landfill still further.[367] However, the Federation of Master Builders, which represents smaller construction customers, was critical of the Government for not providing sufficient recycling facilities to allow firms to avoid the cost of landfill.[368] Additionally, local authorities in England reported that they had dealt with more than 2.6 million incidents of fly-tipping in 2006/07—up 5% on 2005/06.[369] It is widely believed that much of this is the result of tipping by smaller builders seeking to avoid the rising cost of landfill disposal.

225. In 2002 the Government also introduced the Aggregates Levy. This is a tax on the commercial exploitation of aggregates, such as sand, gravel and rock, to take account of the environmental costs of quarrying, for example through loss of biodiversity as well as resultant noise and disruption. The aim of the Levy is also to encourage greater levels of recycling. It is broadly revenue neutral, as many of the monies raised are returned to business through a 0.1% cut in employers' National Insurance Contributions. However, a proportion goes towards the Aggregates Levy Sustainability Fund. This supports projects that, among others, promote environmentally-friendly aggregates extraction and address the impacts of past extraction. In its first four years the Fund has distributed almost £70 million to almost 1,200 projects.[370] However, the Quarry Products Association was sceptical of the impact of the Aggregates Levy on the supply of recycled and secondary materials, suggesting that any effect had been modest.[371]

226. Meeting the target for 2012 to reduce the amount of construction, demolition and excavation waste to landfill by 50% on 2008 levels will require a step-change in the industry's current approach to managing waste. The Quarry Products Association told us, however, that for aggregates the potential for greater use of recycled and secondary materials is constrained by the fact that most available materials are already in the market. These aggregates constitute a quarter of the market—much higher than the European average of 7%.[372] Future waste reductions are more likely to come from improvements in manufacturing processes that reduce the amount of unnecessary material delivered to site

367 Qq 64 and 79 (Construction Products Association)

368 Ev 257 (Federation of Master Builders)

369 Campaign to Protect Rural England "Stop the Drop" campaign website

370 Department for Environment, Food and Rural Affairs, *Aggregates Levy Sustainability Fund in England 2002-2007*, February 2006

371 Ev 310, para 13 (Quarry Products Association)

372 *Ibid.*

in the first place.[373] Furthermore, clients too will have a vital role to play in providing clarity about what it is they want, therefore reducing waste from having to undo work on site that has already been done. The setting up of an integrated project team is key to achieving this. As CABE told us, waste is "never going to be eliminated just by shouting at the industry to do better".[374]

Water and energy consumption

227. The *Strategy for Sustainable Construction* has set targets for energy and water consumption, which also form part of the industry's new *Accelerating Change* targets for 2012. These are to reduce carbon dioxide emissions arising from construction processes and associated transport by 15% over 2008 levels, and over the same period to reduce water consumption in the manufacturing and construction phase by 20%. The Construction Products Association told us suppliers and manufacturers had already made considerable progress in reducing their energy use, driven primarily by increased fuel costs in recent years.[375] Constructing Excellence collects data on the sector's water and energy consumption. It shows that since 2004 the average energy use in terms of kilograms of carbon dioxide per £100,000 of project value, has fallen from 322 to 273—a 15% reduction. Similarly, average water consumption measured in cubic metres per £100,000 of project value has fallen from 9.7 to 8.2—also a 15% reduction.[376] On past performance, this suggests the industry's new targets for energy and water use are achievable, especially for energy, given fuel costs are now expected to remain high for the foreseeable future.

The social cost of construction work

228. The majority of construction work takes place adjacent or near to existing buildings. The resultant noise, dust and traffic disruption generated on site can impact significantly on the surrounding community, and have a negative effect on people's perceptions of the sector. The City of London Corporation told us about its work to address this concern through the Considerate Contractor Scheme, which it introduced over 20 years ago to encourage good practice on construction sites in the Square Mile. It has a voluntary code, which aims to ensure contractors conduct their operations in a safe and considerate manner, and with due regard for passing pedestrians and road users.[377]

229. The success of the initiative has led to the wider adoption of the principles of considerate construction. In the late 1990s the Construction Umbrella Bodies established a nationwide version, known as the Considerate Constructors Scheme. The Code of Considerate Practice for this states that all work should be carried out "with positive consideration for the needs of traders and businesses, site personnel and visitors, and the general public". It also requires that contractors should be aware of the environmental impact of their site and minimise the effects of noise, light and air pollution.[378] All

373 Ev 227, para 42 (Constructing Excellence)

374 Q 230 (Commission for Architecture and the Built Environment)

375 Q 64 (Construction Products Association)

376 Constructing Excellence and BERR, *Industry Performance Report 2007*, September 2007

377 Ev 194, para 13-15 (City of London Corporation)

378 www.considerateconstructorsscheme.org.uk

registered sites are monitored to assess compliance with the Code, with the role of inspection being to encourage a site operator to want to improve their performance. Over 27,000 sites have registered with the scheme since its introduction, and nearly 36,000 inspections have taken place.[379] The Office of Government Commerce's Common Minimum Standards state that all public sector clients should include contract clauses for contractors to be members of the scheme or a local equivalent, and to comply with its code of practice. The new Minister responsible for construction has also publicly given her encouragement for all construction companies to sign up to the scheme. However, there are no measures of the extent to which public sector clients currently insist upon this.

230. Reducing the environmental impact of the construction process is a key part of Government and industry's *Strategy for Sustainable Construction*. We support new targets for reducing waste, and for cutting energy and water consumption. Achievement of these is likely to stem mainly from economic incentives, as well as higher fuel costs. Any increase in taxation must be accompanied by greater enforcement activity against fly-tipping. The public sector as client also has an important role to play in improving the construction process. Integrated team delivery can reduce the waste arising from construction projects through early planning and engagement with the supply chain. We saw examples of this in our visits to the Royal London Hospital and the 2012 Olympic site in Stratford. Rigorous enforcement of the Common Minimum Standards by the Office of Government Commerce should also include requiring that all public sector projects are registered for the Considerate Constructors Scheme, or some equivalent. This will demonstrate best practice to the private sector, and help improve the public image of the industry.

The end-product

231. Reducing the impact of the industry's output on the environment is also an integral part of the creation of a sustainable construction sector. In this section we look at government's role as client in embedding environmental sustainability in construction procurement. We then consider actions it can take as regulator to influence the private housing sector.

The public sector as client

232. There are enormous opportunities for central Government and the wider public sector to set a strong lead through the sustainable design, procurement, maintenance and operation of its built assets, and in so doing bring costs down for the rest of the market.[380] In 2006, the Government launched a range of targets for sustainable operations on the government estate, including to achieve carbon neutrality across its office estate by 2012; for departments to increase their energy efficiency per m^2 by 15% over 1999/00 levels by 2010; and for water consumption to average $3m^3$ per person per year for all new office build and major refurbishments. These have been incorporated in the *Strategy for Sustainable Construction*.

379 Considerate Constructors, *Industry Image*, March 2008

380 Ev 200, para 24 (Commission for Architecture and the Built Environment) and Ev 152, para 3.2 (ARUP)

233. Consideration of whole-life value is key to the investment case for environmentally sustainable buildings. However, clients' decisions can be skewed by their tendency to focus on initial costs. As the Government's own Sustainable Procurement Task Force put it: "Incentive systems neither reward sustainable procurement nor do they punish failure to comply with existing policies in this area".[381] Various witnesses told us government needed to break out of this mind-set.[382]

234. In reality, sustainable buildings need not be significantly more expensive than traditional ones. Constructing Excellence cited evidence from its demonstration projects, which suggests increasing the sustainability of new buildings can be achieved at little or no additional capital cost (although this is not the case for the refurbishment of existing buildings, which can be more complex).[383] Rather, the additional cost is in part the result of perception and process. Contractors do not yet routinely deliver sustainable projects, and so increase their cost estimates because they perceive greater risk and uncertainty in such ventures.[384] If the design process treats sustainability as an 'add-on' at the end, that too is likely to lead to a more expensive solution than if sustainability is key to the design premise from the outset.[385]

235. The Government is beginning to embed environmental concerns in departments' investment decisions by requiring procurers to take account of the cost of carbon in their appraisal of projects. In 2007, the Department for Environment, Food and Rural Affairs (DEFRA) published supplementary guidance to HM Treasury's *Green Book* setting out how departments' investment appraisals should quantify the amount of carbon dioxide new projects will generate, and the resultant cost. The guidance provides a 'shadow price' of carbon, which rises by 2% each year to reflect inflation, and by a further 2% per year to reflect the rising damage costs from higher concentrations of greenhouse gases in the atmosphere. In 2008 the shadow price is £26.50 per tonne of carbon dioxide. At 2008 prices, this will rise to £33.60 by 2020 and £60.80 by 2050. CABE believe the adoption of such 'carbon accounting' could have "a fundamental effect on the decisions we make about buildings".[386] However, the Minister responsible for construction said "we are still in very early days for carbon accounting".[387]

236. Carbon accounting depends on the availability of information demonstrating the carbon-saving potential of different technologies and building designs. This is where post-occupancy evaluation is important.[388] Assessing the environmental outcomes of a project in the years after its completion will provide more robust data to inform future project appraisals. The Office of Government Commerce is introducing mandatory performance benchmarking of office buildings on the Government's Civil Estate. We hope this will

381 Sustainable Procurement Task Force, *Procuring for the future*, June 2006

382 Ev 170, para 13 (BSRIA), Ev 212, para 37 (Construction Confederation, CIC and CPA), Ev 278 para 10.1 (Institution of Civil Engineers) and Ev 255, para 8 (FETA)

383 Ev 228, para 43 (Constructing Excellence)

384 Ev 228, para 44 (Constructing Excellence)

385 Q 247 (Constructing Excellence)

386 Q 245 (Commission for Architecture and the Built Environment)

387 Q 642 (BERR)

388 We discuss this in Chapter 4

provide the kind of information that will be able to inform future project appraisals, but the OGC will need to extend the scheme to cover all parts of the public sector, if it is to gather evidence on a range of different buildings, and not just offices.

237. In addition to carbon accounting, the Government promotes the procurement of sustainable buildings by requiring public sector new build to meet a certain standard over and above that defined by the Building Regulations. The Building Research Establishment Environmental Assessment Method (BREEAM) is widely used to assess the performance of new projects. This marks buildings' operation against a range of categories, including pollution, water use, land use, materials, energy use and health. The credits awarded in each area produce an overall score on which the BRE awards a rating of 'Pass', 'Good', 'Very Good' or 'Excellent'.

238. Since 2002, all public sector new build projects have been required to achieve a rating of 'Excellent' and all major refurbishment projects a rating of 'Very Good' or better, as set out in the OGC's Common Minimum Standards. Yet, in a damning report last year the National Audit Office (NAO) found many departments were consistently failing to conduct such assessments, and that very few of the projects which were assessed actually met the required standard.[389] Just 14 out of 106 new build projects considered by the NAO achieved an 'Excellent' rating, and only 27 out of 335 refurbishment projects were rated as 'Very Good'. In response, the Minister said: "There is certainly a long way to go".[390] The NAO also concluded that, on its own, the BREEAM standard is not sufficient to ensure all new projects and refurbishments contribute to the Government's targets for improving the sustainability of its operations. Rather, departments should set more output-focused targets for construction procurement, such as for reduced water and energy use, and lower carbon emissions.

239. The joint Government and industry *Strategy for Sustainable Construction* includes a range of challenging targets for improving the environmental performance of the buildings it procures. If the Government is to meet these, a whole-life approach to project design will be key. HM Treasury must mandate the use of carbon accounting for the appraisal of all public sector construction projects. The Office of Government Commerce should also rigorously monitor progress against the BREEAM requirements for all new build to be rated 'Excellent' and all refurbishments 'Very Good'. However, the BREEAM standard should not be used in isolation to assess projects—it should be complementary to more specific output-focused targets for environmental performance.

The housing sector

240. Although the public sector is client to around a third of the construction industry's output, it does not have the client role for most new housing. Consumers do not attach increased value to the sustainability of homes, although rising energy prices may change this view in the future.[391] In the absence of sufficient market drivers the role of government

389 National Audit Office, *Building for the future: Sustainable construction and refurbishment on the government estate*, HC 324, April 2007

390 Q 635 (BERR)

391 Q 312 (Home Builders Federation)

is to regulate for better quality homes. Successive changes to the Building Regulations in recent years have created large improvements in the carbon performance of buildings. The Institution of Civil Engineers noted that new projects today are 40% more energy efficient than in 2002, and 70% better than in 1990.[392]

241. The Government has set a target for all new homes to be carbon neutral by 2016. To this end, in April 2007, the Department for Communities and Local Government (CLG) launched its *Code for Sustainable Homes*. This sets a national standard for the homebuilding sector in the design and construction of sustainable homes. It places certain requirements on new build for energy use, carbon emissions, waste, materials, pollution and water use. Under the Code, new homes are given a rating of one to six, the lowest of which is above the current Building Regulations requirements, and the highest is for carbon neutral developments. The Code is at present voluntary for the private sector, but Level 3 as a minimum is mandatory for all publicly funded new housing.[393] The Government plans to use a similar approach for the non-domestic sector, where its ambition is to achieve carbon neutrality by 2019.

242. Although the long lead time for the target should give the industry opportunity to develop technologies, and trial new methods and materials, it will not be easy to introduce zero carbon homes.[394] Moreover, there is widespread concern that the Code and the Government's target focus on new build rather than the existing housing stock.[395] Housing is responsible for over a quarter of carbon emissions in the UK. The replacement rate of the existing stock is just 0.1% per annum, and new build adds only 1-2% each year. This means that by 2050, pre-2007 homes will still constitute more than 70% of all housing. The relative cost-effectiveness of promoting energy efficiency in new as opposed to existing homes is also important. The Construction Products Association told us for every pound spent achieving beyond Level 3 of the *Code for Sustainable Homes* in new homes, it was possible to get a return 50 times greater in terms of carbon savings by investing that money in the existing housing stock.[396]

243. Government needs to provide the incentives for homeowners to invest in making their homes more environmentally sustainable. In the current climate of rising energy costs, there is an increasing willingness amongst homeowners to make such changes, though some witnesses felt existing tax breaks were not sufficiently attractive.[397] In our Report on local energy in the 2006–07 Session we noted how tax incentives to install microgeneration systems in particular were *ad hoc* and inconsistent with those faced by larger commercial energy producers. We called then for "a comprehensive review of the

392 Ev 278, para 9.7 (Institution of Civil Engineers)

393 Ev 138, para 20-1 (BERR)

394 Q 76 (Construction Products Association)

395 Ev 212, para 39 (Construction Confederation, CIC and CPA), Ev 152, para 3.3 (ARUP), Ev 288 (National House Building Control) and Ev 257 (Federation of Master Builders)

396 Q 70 (Construction Products Association)

397 Q 313 (Federation of Master Builders); Ev 311 (Royal Institution of Chartered Surveyors)

way in which local energy is treated within the fiscal system, both at a national and local authority level".[398] We believe this conclusion still stands.

244. What the Government cannot influence through its purchasing power it must achieve through regulation. Changes to the Building Regulations have led to significant improvements in the energy efficiency of new buildings. We support the Government's target for all new build homes to be carbon neutral by 2016, and the role of the *Code for Sustainable Homes* in achieving this, but we recognise the extremely ambitious nature of this target. The existing housing stock also needs to be made more sustainable. To this end, we continue to believe the Government should conduct a comprehensive review of the incentives for homeowners to improve the environmental sustainability of their dwellings.

245. Overall, we welcome the Government and industry's joint *Strategy for Sustainable Construction* and hope that it will set the agenda for improving the long-term environmental performance of the sector. However, policy responsibility for sustainable construction is particularly fragmented across government. The Strategy itself is the product of six different departments. It sets out which bodies are responsible for particular targets, but no individual has overarching responsibility for its delivery. A Chief Construction Officer would make an important contribution to co-ordinating policy delivery across departments and promoting sustainable construction.

398 House of Commons Trade and Industry Committee, *Local energy—turning consumers into producers*, HC 257, January 2007

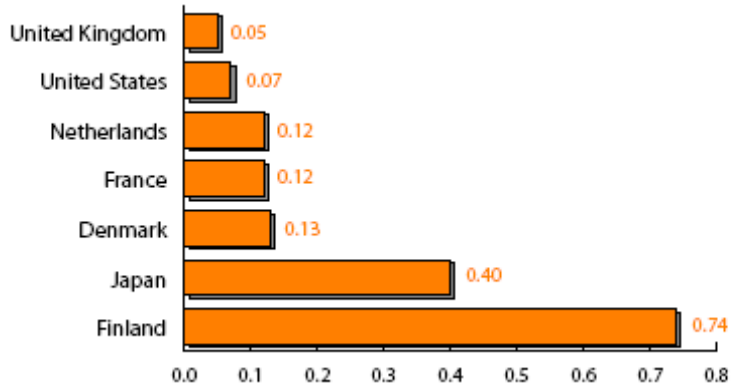
7 Raising standards

246. Ultimately, the industry itself bears the greatest responsibility for its standards. While lower standards in the short term may reduce costs and increase profit margins, in the long run they threaten the reputation of individual companies, and of the industry as a whole—high standards may give a competitive advantage. However, given the fragmented nature of the industry, it is sensible to support efforts to improve. Moreover, since the problems are compounded by the fact that, in many cases, clients focus on costs rather than value, and may have limited information about the way in which the industry works, or the competence of individual firms, it makes sense to invest in measures that help clients to demand more from the industry. In this chapter we look at the work of government in helping to raise standards across the industry. First, we analyse the role of research and innovation in achieving this. Second, we look at the function of the Building Regulations in defining minimum standards for buildings. Then we consider the various schemes for contractors, designed to help clients hire only firms that meet a required standard. Finally, we look at the current inquiry by the Office of Fair Trading (OFT) into price-fixing amongst contractors.

Research and development

247. There was near universal acceptance amongst our witnesses that the construction industry and government both invested too little in construction research and development (R&D).[399] Figure 2 below provides an international comparison of R&D spend as a percentage of industry value-added—the share in the UK is just one twentieth of 1%. The Building Research Establishment (BRE) told us that the UK spends just £43 million on construction R&D, compared to £206 million in France, and £750 million in Japan.[400]

Figure 2: Construction R&D expenditure as a percentage of value-added



Source: OECD

399 Ev 231, para 12 (CIC—East Midlands), Ev 280, para 12 (Local Authority Building Control), Ev 233 (CIRIA), Ev 169 (BSRIA), Ev 213, para 50 (Construction Confederation, CIC and CPA), Ev 163 (BRE *et al*), Ev 314, para 6.1 (Royal Institution of Chartered Surveyors) and Ev 225, para 27 (Constructing Excellence)

400 Q 262 (Building Research Establishment)

The reasons for poor R&D performance

248. There are structural reasons for the low level of construction R&D in the UK. First, as noted already, the industry is highly fragmented—its largest company, Balfour Beatty, has a market share of less than 3.5%.[401] This means there are no significant market leaders able to create demand for new technologies or processes.[402]

249. Second, profit margins in the UK industry are low—typically just 2% to 3%. This means that any activities such as investment in R&D or training, which can be cut without short-term disadvantage, are frequently jettisoned to protect firms' profit margins. The Construction Confederation and BRE said countries such as Sweden and Japan have much higher rates of R&D investment because their markets are more concentrated and enjoy higher profit margins.[403]

250. Thirdly, the end-product in construction is usually the one-off result of a team of firms working together on a project. Process innovation may take place within the team over a project's lifetime, but there are no industry-wide means of capturing that innovation so that it can be used in subsequent ventures.[404] It is here that framework arrangements can be useful.[405] By creating a relationship between the client and the supply chain that endures over a number of projects, teams are able to apply lessons learnt and innovative processes from one project to the next.

251. A fourth reason for the construction industry's poor R&D performance is that it is almost impossible to protect intellectual property rights. As BRE put it: "Basically anything you invest in terms of advanced process, new integration, a new way of doing things will be copied the next day by anybody who visits your site".[406] Unlike manufacturing, construction firms do not benefit much from 'first mover advantage', and so gain little competitive edge from innovating.

252. A fifth factor is that firms are often unwilling to take risks with experimental products or processes because the cost of getting it wrong and having to put right a problem, can far outweigh the benefit. We were also told on our visit to the Royal London Hospital redevelopment project that the availability of high levels of migrant labour has reduced the incentive to innovate to increase productivity in the industry.

253. Yet more reasons for poor investment in R&D lie with the client. Those purchasing construction projects are often not able to differentiate between a more advanced product and that which the industry might produce ordinarily. This reduces the incentive for contractors to offer a more innovative solution. In addition, construction clients are naturally conservative, especially where they are purchasing a one-off project from the industry. BRE told us clients "want a good quality building but they do not want to be the

401 See Chapter 1

402 Ev 173, para 43 (Building Services Research and Information Association)

403 Qq 82 (Construction Confederation) and 266 (Building Research Establishment)

404 Q 263 (Building Services Research and Information Association)

405 We discuss these in Chapter 2

406 Q 259 (Building Research Establishment)

test bed for new thinking".[407] Overall, the usual commercial drivers that lead businesses to invest in R&D are either missing or very weak for a large part of the construction industry. The only exception is for construction product manufacturers and suppliers—the part of the sector which most closely resembles other manufacturing industries.[408]

Government support for R&D

254. The unique market characteristics of the construction industry have long been recognised, and the sector has accordingly received significant public sector funding to help raise the level of R&D. The Government co-funded the Construction Research and Innovation Programme, which provided support worth about £23 million per annum, until 2002. This funded research, as well as a range of knowledge transfer and best practice activities, including materials testing, development of codes and standards, general guidance, network groups, work underpinning changes to the Building Regulations, and the development of sustainability assessment tools.[409] It also provided financial support to the Building Research Establishment (BRE). However, in 2002 the then Department of Trade and Industry (DTI) closed the construction programme, making the UK the only advanced country in the world not to have a dedicated construction R&D funding stream.

255. BERR told us the closure of the programme was a response to a review by the then Chief Scientific Adviser, Sir John Fairclough, which recommended that "the industry should take greater responsibility for defining and funding the research needed to support its future competitiveness". It also recommended that government should target collaborative funding programmes "selectively at the key competitiveness issues" and gradually withdraw funding outside of these areas.[410] However, we do not believe that this can be construed as a justification for the complete closure of the DTI's construction programme, especially given that the same report states that "the available resources for construction R&D are the minimum the sector deserves, bearing in mind its size and importance".

256. The programme may also have been the victim of departmental reorganisation. BRE told us that following the 2001 election, responsibility for construction was transferred from the then Department of the Environment, Transport and the Regions (DETR) to the DTI, which brought construction sponsorship alongside other sectors handled by the Department. At that time, the DTI was also undertaking a fundamental review of its business support activities and the way in which it supported innovation, which resulted in a move away from sector-specific schemes, such as the one that had benefited the construction industry, and the pooling of many funding streams into the business-led Technology Programme, managed by the Technology Strategy Board (TSB). BRE told us that the funding for the Construction Research and Innovation Programme, "to quote the

407 *Ibid.*

408 Q 82 (Construction Products Association)

409 Ev 141, para 3 (BERR)

410 Sir John Fairclough, *Rethinking construction innovation and research*, 2002

Minister at the time, was 'snaffled' into the central coffers of the DTI and probably reappeared in the Technology Programme".[411]

257. The TSB provides funding in a variety of ways for 'key technology areas', such as nanotechnology and bioscience, and 'key application areas', which includes the built environment. It has established the 'Modern Built Environment Knowledge Transfer Network', led by BRE, which aims to increase the rate of technology and innovation take-up of the sector. The TSB has also recently announced its 'Low Impact Building Innovation Platform', which will provide £4 million of funding for collaborative research projects into new components and materials that reduce the energy and water use, and waste production of buildings.

258. Although the Research and Technology Organisations (RTOs) welcomed the funding provided by the TSB, they noted that it did not address the gaps left by the closure of the previous programme.[412] Indeed, Constructing Excellence believed "many of the strategic issues needing research in the industry are not technology driven" and therefore would not receive funding from the TSB.[413] Overall, BSRIA estimated that current public funding for construction R&D was between £5 million and £10 million per annum, with most of this coming from the TSB. That is less than half the amount spent prior to 2002. However, BERR told us there were a number of other sources of construction-related public R&D funding across government, including:

- Engineering and Physical Sciences Research Council (c. £32 million per annum for academic-led research);
- Department for Communities and Local Government (c. £5 million per annum for research underpinning the Building Regulations);
- Highways Agency (c. £8 million per annum towards asset management issues, including construction techniques);
- Environment Agency (c. £4 million per annum for R&D into flood management);
- Carbon Trust (c. £4.5 million per annum); and
- Funds available through European Research Framework Programmes.

259. The Department suggested that this "indicates there has not been any major shift of money away from construction but rather some redistribution".[414] The Minister responsible for construction also thought "the beneficiaries of the previous arrangements may have a bit of nostalgia for how things used to be".[415] The RTOs argued that there had been very clear negative consequences of the drop-off in funding following the closure of the DTI programme. The starkest evidence was the fall in the number of papers published

411 Q 271 (Building Research Establishment)

412 Q 270 (BSRIA)

413 Ev 225, para 27 (Constructing Excellence)

414 Ev 143, para 16 (BERR)

415 Q 647 (BERR)

by the RTOs in recent years, from an average of 173 new titles per year between 2000 and 2005, to just 63 in 2006—a decline of 63%.[416] BRE told us the underlying situation was even worse because a large proportion of these 'new' titles were actually just updates of older documents.

260. The RTOs listed a number of consequences of the lack of direct BERR funding for construction R&D. First, there is no longer sufficient monitoring of the performance of new technologies, such as microgeneration, and construction techniques to learn what does and does not work. Second, funding is no longer available to translate university research into 'applied advice' for industry. Third, the UK is increasingly absent from international forums and is no longer learning from international practice, whilst also ceding influence within Europe in standards setting.[417] This decline risks undermining the sector's international competitiveness and its export earnings.[418] BRE referred to the situation as a 'slow crisis' because it has to date gone largely unnoticed. Yet the RTOs believe "a critical part of the UK's competitive position and delivery capacity is being steadily undermined".[419] The Minister responded: "I have certainly not seen any evidence of damage to UK construction".[420] The RTOs' concerns were supported by the Strategic Forum for Construction, (although the Department claimed the contrary).[421] We are surprised that the Government appears to be unaware of industry concerns about such an important issue.

261. The UK's National Platform for the Built Environment, managed by Constructing Excellence, was launched in 2005. It aims to increase the level of business-led relevant research. It provides a means for industry to articulate its R&D needs to the research community. It has published a set of research priorities for the future. However, despite a positive reception from the industry, Constructing Excellence said its progress to date has been hampered by a lack of available 'seed funding'.[422]

262. Overall, there was strong support for reinstating a dedicated construction research and innovation programme to address the concerns over lack of public funding. The RTOs believed this could be achieved without additional taxation. Rather, the Landfill Tax Levy, the Aggregates Levy and the Climate Change Levy could all provide potential sources of funding through a simple 'top-slicing' of a small proportion of the monies raised, a very large proportion of which come from construction industry firms in the first place.[423] It is likely, though, that this funding has already been allocated for expenditure or reduced taxes elsewhere. It is over-optimistic to suggest that re-allocating some of this money for construction R&D could be achieved without a cost; however, some of the funding from these levies is intended to support the industry, and it seems appropriate to consider how best it should be spent in the future.

416 Ev 164, para 17 (BRE *et al*)

417 Ev 166 (BRE)

418 Ev 271, para 2 (HR Wallingford) and Q 281 (BSRIA)

419 Ev 166 (BRE)

420 Q 646 (BERR)

421 Ev 143, para 19 (BERR) and Ev 213, para 51 (Construction Confederation, CIC and CPA)

422 Q 86 (Construction Industry Council); Ev 225, para 28 (Constructing Excellence)

423 Ev 165, para 19 (BRE *et al*)

263. Unlike most other developed countries the UK does not have a dedicated publicly-funded research and innovation programme for its construction sector. We believe this is unwise. Research and innovation is necessary to meet the Government's targets for sustainable construction and its own needs as a client. The structure of the construction industry and the nature of its work mean that the usual commercial drivers of R&D investment are either missing or very weak—if there is market failure, government support has to be provided. There needs to be an urgent assessment of the level of support, and how it should be supplied, followed by monitoring to ensure the support continues to meet the industry's needs. A Chief Construction Officer would be best placed to do this. We recognise that increased spending in one area has to be offset by decreases elsewhere, or an increase in revenue. However, the industry pays a considerable amount through the Landfill Tax and Aggregates Levies. We believe there is scope for recycling a proportion of these funds to the industry to help fund research, even if this means additional funds have to be provided, either from the taxpayer or the industry. Finally we note that a Chief Construction Officer could also co-ordinate public sector spending through the modest programmes that already exist to ensure its effectiveness is maximised.

The Building Regulations

264. The Building Regulations apply to most new buildings in England and Wales, as well as many alterations to existing buildings, whether they are domestic or non-domestic. The technical requirements with which buildings must comply under the Regulations consist of 14 'Parts', ranging from structural matters (Part A) and fire safety (Part B) to electrical safety (Part P). Their aim is to provide a minimum standard to which all building work should adhere to, and set a level playing field for competition between building companies. Although the content of the Regulations is determined by central government, compliance and inspection is devolved to building control bodies—either local authorities or privately operating approved inspectors. Where work is not compliant, local authorities can take a criminal prosecution, which may result in a fine of up to £5,000. They can also serve a notice on the building owner requiring the work to be brought up to the required standard.[424]

265. Construction firms had three main concerns about the Building Regulations. The first was complexity. The Regulations contain 14 parts and cover hundreds of pages. Witnesses said they were "too cumbersome", and needed "a greater emphasis on clarity".[425] Such complexity has even led to instances where different parts of the Regulations conflict with each other. A second concern was the notice period for changes to the Regulations. Final details are often not settled until very shortly before the industry has to implement them. This can be damaging if, for example, firms have invested in capacity to produce a material, which is subsequently not favoured by the Regulations.[426] It also creates difficulties for small firms, which often struggle to keep up with the changes.[427] Finally, witnesses

424 Ev 137 (BERR)

425 Ev 255 (Federation of Environmental Trade Associations), Ev 213, para 54 (Construction Confederation, CIC and CPA). Also, Q 431 (Home Builders Federation)

426 Q 31 (Construction Products Association)

427 Q 431 (Home Builders Federation); Ev 256 (Federation of Master Builders)

complained there was a lack of longer-term strategic vision on the part of government as to the evolution of the Regulations over time. This can inhibit forward investment planning by the supply chain.[428]

266. In March 2008, the Department for Communities and Local Government published a consultation paper, *The Future of Building Control*. This seeks to address some of the above concerns. A key proposal is to introduce a periodic review system for the Regulations that runs over a three-year cycle. Changes would take place over a range of parts, following a structured process, and replacing the current approach whereby revisions to different parts are published in a piecemeal fashion. Furthermore, the Department has proposed a 'two-cycle rule' whereby a particular issue will not be addressed in consecutive cycles. In other words, no issue would be subject to change more than once every six years. The consultation also proposes the introduction of a 'standstill' period of six months between the publication of new legislation and its implementation. This should allow more time for the industry to prepare for any changes.

267. The consultation stops short of proposing a wholesale simplification of the existing regulations and their guidance. It argues that the amount of work involved would distract from the other reforms. Furthermore, it notes that the required standards for buildings would remain the same, regardless of how the information is presented. Nonetheless, the consultation does state that the Department will seek to remove overlaps, or points of confusion, by reducing the number of parts over time as part of the periodic review framework. The consultation closed in June 2008. The Government hopes to introduce the first review cycle in line with its commitment to review Part L of the Regulations (conservation of fuel and power) in 2010.

268. The construction industry believes the Building Regulations are too complex, and changed too often. We agree. We welcome the Government's proposals to create a framework to manage changes to the Regulations over a three-year cycle, and to limit amendments on any single issue to once every six years. We hope that this will effectively address the industry's concerns on the timing of changes and the way in which frequent changes hinder its strategic planning. We hope too that the Department for Communities and Local Government will use the first review cycle, which will begin in 2010, to address inconsistencies and overlaps in the current Regulations. We are, though, disappointed that a more radical simplification of the rules is not under consideration and believe the possibility should be re-examined.

Helping clients make informed decisions

269. The standards set by the construction industry vary hugely. The Construction Industry Council told us that although the sector was "absolutely world-class at the top", there is also "a very long tail" of firms at the other end, which adversely affect the public's perception of the rest of the industry.[429] Because of this variability it is important for clients, be they government or homeowners, to be able to identify which companies are 'competent'. In this section we look at the main scheme for protecting homeowners from

428 Qq 31 (Construction Products Association) and 429 (Home Builders' Federation)

429 Qq 7 and 27 (Construction Industry Council)

'cowboy' builders—TrustMark. We then consider the Government's own scheme for ensuring the public sector only hires competent firms—Constructionline.

TrustMark

270. BERR estimates that botched home improvement work costs around £1.5 billion a year and that Trading Standards Officers receive over 100,000 complaints about cowboy builders a year.[430] The Department, in partnership with the industry and consumer protection organisations has established the TrustMark initiative. Firms carrying the TrustMark badge have had their technical skills independently checked through regular on-site inspections. They will also have adopted a code of practice that includes insurance, good health and safety practices and customer care. The scheme provides a complaints procedure in the event of a problem or disagreement between the client and the firm.

271. To date some 16,000 firms have registered for the scheme, which now has 25 operators.[431] However, one of the scheme's operators, the Federation of Master Builders (FMB), was concerned by the low level of consumer awareness of the TrustMark brand. Because clients are not routinely requesting TrustMark registered firms, they see little business advantage in joining the scheme. FMB suggested marketing had been hindered by a recent reduction in government funding.[432] In response, the Minister said the initiative had been designed as self-funding from the outset and that BERR was working with the TrustMark scheme operators to establish a consumer forum to help raise the brand's profile.[433] The scheme is still in its infancy, and was only launched to consumers in January 2006. Given the infrequency with which most homeowners employ builders, arguably it will take some time for brand awareness of the TrustMark logo to develop. This should happen over time, so long as the scheme retains the support of government and its current branding.

272. Companies need to be able to show that they are competent to give their clients confidence and to ensure a level playing field for competition amongst suppliers. We hope the TrustMark scheme will, in due course, become a recognised symbol of quality for builders in the same way that CORGI is for gas installers. This will take time, but with some 16,000 builders already registered, the initiative has made good progress since its launch in 2006. It is in the interests of reputable companies that the scheme should succeed and we believe that the onus for funding and publicising the scheme falls on the industry and not the Government.

Constructionline

273. Firms are usually required to 'pre-qualify' before they can tender for public sector construction work by submitting a range of information including their contact details, financial standing, evidence of health and safety credentials, and references. This is often administratively time-consuming and repetitive. Several witnesses highlighted the plethora

430 Ev 121, para 57 (BERR)

431 Q 688 (BERR)

432 Qq 321 and 325 (Federation of Master Builders)

433 Q 688 (BERR)

of different qualification schemes that existed across the public sector, many of which required very similar information, but were tailored to suit particular clients.[434] The Association of Consultancy and Engineering said more than half its members had to sign up for multiple accreditation bodies. For those signing up to four schemes the fees can total more than £8,000.[435] The Specialist Engineering Contractors' (SEC) Group told us that small and medium-sized firms might have to pre-qualify for 30 or more different schemes to obtain work, and the time and cost of the process present a significant obstacle to SMEs winning public sector contracts.[436]

274. The 1994 Latham report, *Constructing the Team* recommended a national database of pre-qualification information which all public sector procurers were to use. In response, the then DTI established Constructionline—a joint venture with Capita. Since its inception, the database has registered 14,500 members, ranging from sole traders to large contractors, and it is used by 1,600 client organisations.[437] However, Constructionline drew sharp criticism from all the construction umbrella bodies. The Construction Confederation noted that public sector clients, especially local authorities, continue to use their own bespoke pre-qualification procedures, because the system relies on self-certification, and therefore does not command clients' confidence.[438] The National Specialist Contractors' Council (NSCC) told us "it had not delivered", while the SEC Group said "it is not what we are looking for in the industry".[439] In response the Minister said the scheme "is performing a useful role, but I would like to see that further extended".[440]

275. One solution suggested by the SEC Group was to develop a set of core criteria for different pre-qualification schemes that would allow mutual recognition. Firms that registered under one scheme that met these core criteria would then not need to qualify for another scheme that also held the same standards. For example, in health and safety a set of core criteria now exists within the Approved Code of Practice, accompanying the Construction, Design and Management Regulations 2007.[441]

276. The Government must reduce the burden that multiple public sector pre-qualification schemes impose on construction firms, particularly SMEs. Constructionline was set up to address this, but it has proved unsatisfactory for the industry. The Government should either make it work, or abandon it. If the consensus is that Constructionline cannot work as intended, then the Office of Government Commerce should consider how it might develop core criteria and mutual recognition between schemes.

434 Q 394 (Specialist Engineering Contractors' Group); Ev 246 (Electrical Contractors' Association), Ev 211 (Construction Confederation, CIC and CPA) and Ev 265, para 27 (Heating and Ventilating Contractors' Association)

435 Ev 160, para 26 (Association of Consultancy and Engineering)

436 Ev 324, para 4.8 (Specialist Engineering Contractors' Group)

437 Q 693 (BERR)

438 Ev 211 (Construction Confederation, CIC and CPA)

439 Q 397 (NSCC and SEC Group)

440 Q 693 (BERR)

441 Ev 325, para 4.11-2 (Specialist Engineering Contractors' Group)

Cover pricing

277. In April 2008, the Office of Fair Trading (OFT) issued a 'Statement of Objections' (SO) against 112 construction firms in England over alleged incidences of 'cover pricing'.[442] This is a practice whereby a contractor aims deliberately to lose a tender by submitting an uncompetitive bid. They might choose to do this because they have discovered late on that they are not able to carry out the work, or because they wish to stay on a client's preferred bidders lists. This practice is not illegal in itself. However, the law forbids firms bidding for the same contract from contacting each other during the process to gain an estimate of what might represent a plausible bid, but which would still not win the contract.[443]

278. The OFT's inquiry, which began in 2004, has focused on 244 infringements. In the case of 12 of these (involving 9 companies out of the 112), it is investigating more serious potential incidents of a successful bidder paying an agreed sum of money to the unsuccessful tenderer. The OFT's press notice states that "no assumption should be made at this stage that there has been an infringement of competition law by any of the companies named in the SO".[444] Those companies concerned now have an opportunity to respond in writing or orally to the OFT before it reaches a final judgement. This is not expected until 2009.

279. The statement of objections is not publicly available, so the only available information relating to the latest developments has been the OFT's press notice and briefings it provided to the media on the day of its release. The Construction Confederation has stated publicly its concern at the "sensationalist" reporting of the OFT announcement, which it believes has adversely affected the public's perception of the industry.[445] The Construction Confederation believe that the practice of cover pricing was mostly a symptom of inadequate procurement regimes within the public sector. It also argues that the use of cover pricing had all but died out in more recent years because of a move away from procuring on the basis of lowest price.

280. The controversy has also potentially created confusion among public sector clients about whether their own contracts have been subject to cover pricing. If it has taken place, it is not clear either whether the practice would have cost the taxpayer. There were press reports that customers may have overpaid by around 10%, although the Construction Confederation argue that cover pricing itself did not give rise to higher prices for clients.[446] Given the low average profit margins for the sector—typically 2-3%—it seems unlikely that if clients did overpay, that it was by the amount speculated.

281. The industry's low profit margins also have implications for the OFT's final decisions on the case, once it has completed taking evidence. The Office has the power to fine a firm up to 10% of its worldwide turnover if it is found to be a member of a cartel. However, this is not likely to apply for any companies found guilty of cover pricing. Many have also

442 Office of Fair Trading Press Notice, *OFT issues statement of objections against 112 construction companies*, 17 April 2008

443 Financial Times, *What is cover pricing?* 18 April 2008

444 *Op. Cit.*

445 The Daily Telegraph, *Builders hit back at OFT over 'innuendo'*, 21 April 2008

446 The Daily Telegraph, *Builders in £300m price-fix probe*, 18 April 2008

applied for leniency in exchange for cooperating with the investigation. There is a risk, however, that highly punitive fines would send those companies into administration, giving rise to the paradoxical result of an inquiry into anti-competitive behaviour actually reducing the competitive capacity of the market.

282. The current controversy over 'cover pricing' can only have damaged the construction industry's reputation, and is at odds with the drive to raise standards. We cannot pre-judge the final verdict of the Office of Fair Trading's investigation. However, we do believe that its outcome should be to ensure that the practice of firms coordinating with each other to lose tenders for public sector work, as well as more serious instances of making compensatory payments, are both stamped out. It must, however, achieve this without damaging the industry's capacity. We also recognise that sensible clients should have procurement systems which do not create incentives to engage in cover pricing in the first place.

8 Applying the lessons: The 2012 Olympics

283. In this Report we have discussed the many ways in which the construction industry needs to improve how it works, and the client's role in achieving this. At the time of writing, a major public sector project is underway, where we are encouraged that the client is trying to put current best practice into action. The 2012 Olympic Games represent a massive challenge for the industry. The scale of the programme is twice that of Heathrow's recently opened Terminal 5, but must be delivered in half the time. It will use between 12% and 14% of the sector's capacity in the South East and London over the next four years, with around 9,000 workers on site at its peak.[447] An additional challenge is the fixed date for the project's delivery in 2012 and the fact that the procurer, the Olympic Delivery Authority (ODA), is by definition a one-off, infrequent client.

284. The Government and the sector appreciate the importance of the Olympics as a means of demonstrating client best practice and for this to act as a catalyst for wider change across the industry. In support of this, the ODA and the ministers responsible for the Olympics and construction, have signed up to the 2012 Construction Commitments. These are essentially the same as the recently published industry-wide Commitments, but applied specifically to the Olympic Games. As the ODA said to us: "we are going to put ourselves right there in the goldfish bowl and say, 'We will demonstrate that we are doing what we said we intended to do and we are following the construction commitments'".[448] The following sections briefly assess the performance of the ODA against the sustainability 'triple bottom line' we set out in Chapters 4, 5 and 6.

Economic sustainability

285. The fixed deadline for 2012, combined with intense public scrutiny of costs, make the achievement of economic sustainability fundamental to the success of the Olympics. Our evidence suggests the ODA is making good progress in adopting best practice in procurement, particularly in seeking to develop integrated teams for the various construction projects. Both Constructing Excellence and the Construction Clients' Group commended the ODA for engaging early with their suppliers.[449] The Authority also appears to appreciate that an integrated team must extend beyond the client, contractor and design team, to include specialist sub-contractors as well.[450]

286. In addition to early engagement, the ODA said categorically that it is adopting a best value approach to procurement rather than awarding work on the basis of lowest cost.[451] This is a particular challenge, given the inevitable and increasing political pressure to minimise the costs of the Games. An appreciation of best value is vital for the programme, though, because of the importance placed on the legacy use of the Olympic venues—a key factor in London's successful bid. For example, after the Games, the Olympic Village will

447 Q 551 (Olympic Delivery Authority)

448 Q 515 (Olympic Delivery Authority)

449 Q 509 (Construction Clients' Group); Ev 224, para 17 (Constructing Excellence)

450 Q 524 (Olympic Delivery Authority)

451 Q 519 (Olympic Delivery Authority)

be converted into housing, primarily for key-workers. Elsewhere, the International Broadcast Centre/Main Press Centre will provide a new centre for employment in Hackney, while other parts of the main park will be relocated for use elsewhere in the country.

287. However, the lack of bidders for some of the main Olympic venues is a potential barrier to the achievement of best value. The athletics stadium and the aquatics centre both finished with only one bidder each. The ODA does not believe that this meant it had not been able to negotiate a good deal.[452] The main reason for the lack of competition to build the main stadium appears to have been that the strength of the bid from the winning team put off other bidders. It includes Sir Robert McAlpine, which was involved in delivering the Emirates stadium—widely seen as a highly successful construction project.[453] There were three companies involved at the start of the bidding process for the aquatics centre. However, for different reasons two of these dropped out, leaving only the eventual winner, Balfour Beatty.[454] In other words, there was sufficient competition at earlier stages to give the ODA negotiating strength. Other projects received a larger number of bids. The ODA may be confident it has achieved reasonable value, but the low number of bids for the two most prominent parts of the Olympic programme shows a rather meek response from the industry.

288. Elsewhere, the ODA is taking various approaches to encourage integrated team working. This includes its intention to use the NEC3 Engineering and Construction Contract for all projects, which encourages partnering.[455] It has also taken out project insurance, emulating its successful use on the Heathrow Terminal 5 programme.[456] It has adopted a policy of not holding retentions from the main contractor, and stated that it expects this to be reciprocated down the supply chain, in line with the 'Fair Payment' Charter. The Authority stated that where this is not happening, "we will take an extremely dim and proactive view of it".[457]

289. The 2012 Olympic Games is a unique and complex construction programme managed by a one-off client. The adoption of an integrated team-working approach will be key to the delivery of the Games on time and to budget. Early indications suggest the Olympic Delivery Authority (ODA) is adopting most of the best practice required to foster such integrated working. However, construction work has only just begun. We hope in particular that the ODA will ensure its payment and contract practices are mirrored throughout the supply chain. We are disappointed that the construction industry itself has not been more enthusiastic in bidding for the main Olympic contracts, and we hope the ODA will have a better response for its remaining construction contracts.

452 Q 523 (Olympic Delivery Authority)

453 Q 520 (Olympic Delivery Authority)

454 Q 521 (Olympic Delivery Authority)

455 Q 356 (Specialist Engineering Contractors' Group)

456 Q 538 (Olympic Delivery Authority)

457 Q 545 (Olympic Delivery Authority)

Social sustainability

290. The ODA is also committed to an Olympic Games that fosters social sustainability. UCATT, the union, wished to see the ODA mandate a direct employment model for all workers, and for it to agree standard wage levels across the whole programme.[458] However, the ODA stated that, though it recognised the value of direct over self-employment, legally it was not able to mandate it. Despite this, the Authority did note that currently around 85% of those on site are directly employed.[459] It has also declined to implement a unified pay structure across all the Olympic projects, stating that this was "unrealistic", and that what "is important is that people are fairly and appropriately paid within the working rule agreements and there is a realistic level of parity across the piece".[460]

291. The ODA has given a high priority to developing its workforce. In February 2008, it published its *Employment and Skills Strategy*. In this the Authority outlined its aim for previously unemployed people to make up at least 7% of the workforce. The ODA is currently achieving 10%, and a large number of workers are being re-engaged to work on subsequent contracts.[461] Elsewhere, the Authority is also aiming to get people into trainee apprenticeships and work placements across the Olympic sites. To this end, a branch of the National Skills Academy for Construction, with £38 million of funding, will be based on the Stratford site. To support this, the Major Contractors Group has agreed to make available 1,000 job placements to young people who have completed further education courses and need on site experience; 1,000 training placements for local people over 21; and sponsorship for 50 undergraduates to obtain a construction-related degree. This is the sort of effort which should help begin to address the domestic skills capacity constraints the industry currently faces.

292. The ODA has also committed to promoting workforce diversity. In 2007 it published its *Equality and Diversity Strategy*. This sets out its aim to work with partner organisations to encourage women, Black, Asian and minority ethnic (BAME), and disabled people to apply for jobs in the Olympic construction programme. Currently, just under 12% of the ODA and its contractors' workforce are women, suggesting there is still some way to go. The ODA in conjunction with the London Development Agency is establishing a 'Women into Construction' project, which will focus on supporting more women working directly on the Olympics construction.[462]

293. Finally, on health and safety the ODA stated its intention to be "extremely intrusive" in ensuring best practice was embedded through out its supply chains. At the time of its evidence to us, the Authority had recently passed its second million man hours without a reportable accident on site. It has also created a Safety Leadership Group, whose members include the Health and Safety Executive, contractors and the unions, to ensure all stakeholders work together to promote the highest standards in heath and safety. In addition the Authority has stated clearly its requirement for all site staff to carry a CSCS

458 Qq 117 and 118 (Union of Construction, Allied Trades and Technicians)

459 Q 548 (Olympic Delivery Authority)

460 Q 557 (Olympic Delivery Authority)

461 Qq 553 and 565 (Olympic Delivery Authority)

462 Tessa Jowell, *Written Answers*, 22 May 2008

card or equivalent. Furthermore, the ODA has recently opened an occupational heath centre on site.[463]

294. The ODA has made good progress in delivering a socially sustainable 2012 Olympics. It is demonstrating exactly the sort of engagement with the workforce that we would like to see in all large public sector construction projects. We are particularly encouraged by its health and safety record to date. We welcome also its commitment to provide substantial training opportunities and promote workforce diversity. If other public sector programmes followed this approach, it would significantly improve the industry's capacity to deliver. However, these efforts will be undermined if contractors are allowed to use 'bogus' self-employed workers. It is regrettable that the Authority cannot legally mandate direct employment across the programme, but it should encourage a strong preference for it as far as possible.

Environmental sustainability

295. An environmentally sustainable Olympics is one of the six themes of the 2012 Construction Commitments. To this end, the ODA has published its *Sustainable Development Strategy*, which outlines a number of objectives, covering, among others, carbon emissions, water use, waste, materials sourcing, and noise and air pollution. Examples of the approach taken by the ODA include the energy centre for the main site, which will be a combined cooling, heat and power plant (CCHP), fitted with woodchip boilers that will provide hot water to all the venues, including the aquatics centre.[464] Elsewhere, as part of the site clean-up process, over 1.3 million tonnes of soil, contaminated with substances such as oil, petrol, tar, arsenic and lead, is being cleaned so it can be reused to landscape the Olympic Park and provide land for future development.[465] In January 2008, the ODA reported that it was achieving more than 90% recycling or reuse of demolition material. For example, complete buildings are being dismantled and rebuilt for use elsewhere. As part of an ecology programme, wildlife has also been relocated to new habitats, including a small nature reserve at the north end of the main site along the banks of the river Lea.[466]

296. The ODA has shown that environmental concerns can be met if they are designed into the construction process from the outset. The challenge for the Authority in the future will be to ensure that contractors for the various Olympic venues adopt the same attitude, and that concerns over short-term costs do not militate against designs that promote whole-life value.

463 Q 558 (Olympic Delivery Authority)

464 ODA Press Notice, *Sustainable energy at heart of Olympic park power plans*, 18 February 2008

465 ODA Press Notice, *On-site lab helps high-tech Olympic park clean-up*, 14 February 2008

466 ODA Press Notice, *Sustainability at heart of Olympic park creation*, 23 January 2008

9 Final remarks

297. 2008 marks a potential turning point in the construction industry reform agenda. Whilst we recognise the current difficulties facing the sector, we hope that this Report, in conjunction with the launch of the Construction Commitments, the industry's new *Accelerating Change* targets, and the *Strategy for Sustainable Construction*, will provide the impetus for widespread improvement in the sector's performance in the long term. The industry has recognised that it has ultimate responsibility for ensuring its continued health, but government actions can help. The Government, because of its role as both client and regulator, can and must be at the forefront of the drive to embed best practice, and to facilitate the transfer of learning from frequent to infrequent clients. It needs to provide organisations such as BERR, the Office of Government Commerce and the Health and Safety Executive with the resources and power to achieve this. Furthermore, to give strategic leadership for the sector, there must be someone who both government and the industry accept as having overall responsibility for construction. Truly joined-up working between government and industry, and between different government departments, would be immeasurably improved by the creation of a post of Chief Construction Officer. And the Government should remember that, as the industry's largest single client, helping the sector to improve means that it and the taxpayer will directly benefit.

Conclusions and recommendations

Why is construction important?

1. The construction industry is of vital importance, not only because of the sector's size, representing one twelfth of all value-added in the UK, but also because its output—the built environment—underpins most other economic activity, as well as contributing to the delivery of the Government's social and environmental objectives. (Paragraph 6)

Industry structure and its implications

2. The construction supply chain encompasses an extremely wide range of activities, from quarrying to civil engineering to associated professional services. It is a highly fragmented industry, dominated by small firms with very little vertical integration. This, together with the inherently project-based nature of the sector's work, has profound implications for the way the industry operates. It uses sub-contracting extensively, which in turn has consequences for the composition of its workforce. Unreliable rates of profitability have repercussions on the sector's approach to investing in areas such as training and innovation, which are likely to be exacerbated under current market conditions. Our Report looks at what can be done to overcome the difficulties arising from the fragmented nature of the industry. (Paragraph 15)

Recent construction industry reform

3. Since its emergence from recession in the early 1990s, the construction industry has been undergoing a gradual process of reform, which we hope will not be jeopardised by the current economic downturn. The influential Latham and Egan reviews called for a radical new approach to construction—one in which client leadership is key; where there is greater collaborative working between firms within the construction supply chain; and where its workforce is fully skilled. There has been progress on all these fronts, but there is still the potential to achieve significantly more. As such, we commend the industry's decision to set new targets for taking forward the Egan agenda. We also welcome the fact that these targets reflect the need to promote economic, social and environmental sustainability in construction—the 'triple bottom line'—themes which underpin this Report. (Paragraph 23)

Government responsibilities for construction

4. As client, regulator and provider of funding, government can influence the construction sector in many ways. The most important is the purchasing power it holds as procurer of almost a third of construction output. This is the main cross-cutting theme of our Report. However, its ability to make effective use of its power is severely hampered by the extent to which responsibility for different aspects of construction policy and procurement is dispersed across government. (Paragraph 29)

A Chief Construction Officer

5. To overcome the problem of the fragmentation of construction policy and procurement across government, we recommend the creation of the post of Chief Construction Officer. Acting at a senior level as 'champion' of the sector, the post-holder would provide a single point of engagement between the industry and the public sector, having operational involvement in policy and regulatory matters across departments. He or she would hold both private and public sector experience to command the respect of the industry and have sufficient clout within government. Throughout this Report, we highlight areas where a Chief Construction Officer could improve the current situation. (Paragraph 34)

The role of the client

6. Success in construction projects is driven by the knowledge and skills of the client. Whether a construction client is frequent or infrequent is more important than whether they function in the private or public sector. Frequent clients are more likely to have invested in their capacity to fulfil their role, thus delivering benefits both for themselves and their contractors. Infrequent or inexperienced clients are less likely to have an understanding of the construction sector and the importance of their client role. This poses greater risks for the delivery of their projects. (Paragraph 41)

7. Increasingly, framework agreements are being used to develop longer-term relationships between customers and their suppliers. They can improve project delivery in terms of time, cost and quality. However, many public sector clients are not yet managing their frameworks rigorously enough to achieve all their potential benefits. One of the functions of the Chief Construction Officer, in conjunction with the Department for Communities and Local Government and others, should be to ensure wider use and more effective management of frameworks, where they are appropriate, both at central and local government level. (Paragraph 42)

The Construction Clients' Charter

8. The features of a 'good' client are the same whether they are frequent or occasional customers to the industry. They include setting clear and consistent objectives, appreciating the importance of value rather than cost alone, and active involvement throughout the project to manage risk. Following its extremely poor take-up, we welcome the industry's intention to revise the Construction Clients' Charter to reflect the new Construction Commitments. This should provide a comprehensive outline of what being a 'good' client entails. Once in place, we believe the Government should lead take-up of the new Clients' Commitments and contribute to the Strategic Forum's new target for client leadership by requiring all major public sector procurers of construction works in central Government to become signatories within the next two years. We expect local authorities to make a similar commitment, and look to the Local Government Association to encourage this, recognising the benefits this would bring to those authorities and their council taxpayers. (Paragraph 49)

Helping occasional clients

9. Occasional clients in the public sector who lack sufficient procurement and construction management skills should be able to draw on skills from elsewhere. The centralised expertise provided by Partnership for Schools shows this can be done. The Chief Construction Officer, in conjunction with the Office of Government Commerce, should establish where such skills gaps exist across the public sector. Where deficiencies are found, a process should be put in place to address the issue, involving the sector skills council, ConstructionSkills, where appropriate. (Paragraph 54)

The Office of Government Commerce's Gateway Process

10. The Office of Government Commerce's Gateway Process offers a means for public sector clients to assess and monitor their procurement performance for construction projects and programmes. We are disappointed by the low take-up of the Process. All public sector construction commissioners should be aware of it. The effectiveness of the scheme should be evaluated urgently, and action taken if the review teams lack necessary expertise. Furthermore, and while the responsibility for initiating reviews must rest with responsible senior officers who will be able to assess when projects are ready, we hope the practicability of giving the OGC power to enforce its use will be explored. (Paragraph 59)

Achieving Excellence in Construction

11. The Office of Government Commerce has used *Achieving Excellence in Construction* as its primary means of driving best practice in construction procurement across the public sector for almost a decade. The initiative played a key role in raising performance during its early days. However, the most recent strategic targets for the initiative expired more than three years ago. Departments' performance since 2005 suggests there has been no further progress on the delivery of public sector projects on time, within budget and with zero defects. This is not surprising given the OGC has no powers to enforce use of its best practice guidance and there are only four people in post to support the scheme. In short, *Achieving Excellence* is now more accurately realising mediocrity. (Paragraph 66)

12. In the wake of the launch of the new industry-wide Construction Commitments, we recommend the Government reinvigorates the *Achieving Excellence* initiative by establishing new targets for public sector construction project performance. The OGC should also put in place performance measurement systems that collect data against all of these targets—not just some. (Paragraph 67)

The Common Minimum Standards

13. The Office of Government Commerce has set Common Minimum Standards for construction procurement, based on the *Achieving Excellence in Construction* guidance, which are mandatory across the public sector. Yet anecdotal evidence suggests their implementation, particularly at local authority level, has been patchy, due in large part to a lack of awareness. We believe the Government should now

update the Standards to reflect the principles set out in the new Construction Commitments. The OGC should also work to promote greater awareness of the Standards; to measure their use across the public sector; and to enforce compliance by central government departments and their agencies. Local authorities, with the support of the Local Government Association, should also comply with the Standards in the interests of the communities they serve. (Paragraph 71)

The Public Sector Construction Clients' Forum

14. We welcome the establishment of the Public Sector Construction Clients' Forum and its work to support the co-ordination of construction activity and initiatives across government. We urge all involved in its work to regard it as a permanent feature of the public sector's engagement with the construction sector. (Paragraph 72)

Transforming government procurement

15. We welcome the *Transforming government procurement* initiative and in particular the OGC's new focus on implementing best practice across the public sector. We are, however, seriously concerned that the Office has been provided with neither the resources nor the powers it needs to achieve this task. We recommend that the OGC's staffing levels are reviewed. We also recommend that the Government reviews the means by which the Office can better perform the role of 'enforcer' of good practice across the public sector. Several potential institutional levers exist already for it to achieve this, but more may be needed. It should involve taking advantage of its position as an office of HM Treasury. It should also include greater engagement at permanent secretary or ministerial level with other government departments. (Paragraph 78)

Recent and predicted growth

16. The construction industry has enjoyed a period of sustained growth for over a decade, in sharp contrast to the cycles typical of much of the post-war era. Construction output in parts of the industry, particularly house-building, is experiencing a sharp downturn in the wake of the fall-out from the sub-prime mortgage market crisis. While public sector expenditure is always subject to a degree of political uncertainty, in the coming years the industry currently expects to benefit from rising infrastructure investment and greater spending in areas such as social housing and education. (Paragraph 84)

Labour supply

17. One of the main sources of capacity growth in the construction industry in recent years has been the availability of skilled migrant workers, predominantly from Eastern Europe. This imported labour has helped mitigate the effect of skills shortages and facilitated the continued expansion of the industry. However, it will not provide a long-term solution to the construction industry's skills needs since, over time, most foreign workers will return to their home countries. This means

there is an ongoing need for the UK to invest in its own construction skills base. (Paragraph 92)

The planning system

18. Although largely outside the scope of our inquiry, the planning system fundamentally determines the capacity of the construction industry through the supply of land, which can be developed and the uses to which that land can be put. This constraint affects all parts of the sector, from quarry products, through house-building, to infrastructure. The Committee looks forward to engaging further on this issue in the next Session, when it will be scrutinising the National Policy Statement for energy. (Paragraph 95)

Construction price inflation

19. Despite the offsetting factors of recent migration and the current economic slowdown, a combination of high demand, skills shortages and rising input prices has led to construction price inflation running at above the overall rate of inflation. However, we cannot predict what the effect of the current industry downturn will be. Construction price inflation poses a cost risk to construction firms on long-term contracts. It also reduces the cost certainty for public sector clients of long-term projects such as the Olympics. (Paragraph 98)

Helping the industry plan for additional capacity

20. If the construction industry is to have an incentive to improve its capacity to deliver in the long run by investing in training and new ways of working, it requires the security of a long-term flow of work. The public sector is beginning to acknowledge the role it can play in engaging early with the construction supply chain. It is setting longer-term investment programmes for public services, introducing a new approach to planning, and has clearly committed to 'zero-carbon' homes by 2016. However, it could still do more to improve the flow of information to the construction industry, particularly when programmes are delayed, amended, or abandoned. We believe that there is scope for greater co-ordination of major construction projects to mitigate the effects on construction price inflation and to ensure a steady workflow for the industry, although the industry must recognise that its health is only one of the factors the public sector has to take into account. Like any other client, different parts of the public sector will expect to arrange their construction projects to meet their own needs. (Paragraph 107)

21. One of the responsibilities of the Chief Construction Officer should be leading the Public Sector Construction Clients' Forum's work on capacity planning. The post-holder should work with departments both to improve the flow of information on construction programmes, and to advise on their co-ordination. As the industry's largest single client, the public sector ultimately benefits from such early engagement. (Paragraph 108)

Recent economic performance

22. Overall, the construction industry is getting better at delivering a quality product for the client, and the proportion of projects completed on time has increased, but there still remains significant room for improvement in finishing projects both to time and to budget. (Paragraph 111)

Raising performance through integrated teams and supply chains

23. The fragmentation of the construction industry has contributed to its poor performance on delivery to time and cost. Integrated working not only improves value for the client, but also allows time for firms in the supply chain to develop business relationships with each other, creating an environment that encourages investment in capacity and innovation. Despite the potential benefits for all involved, progress in adopting integrated working has been slow. We welcome the new targets for the period 2008 to 2012. We are encouraged that the industry bodies have recognised their responsibility. The Government should also play its part through, for example, effective framework arrangements; engagement with the industry on its long-term construction programmes; and departments' compliance with the Common Minimum Standards. (Paragraph 118)

Early engagement with the supply chain

24. Government is not doing enough as client to engage with the supply chain early on—a key feature of integrated working. As a result, the public sector is missing out on efficiencies that would deliver a cheaper and better quality end-product. (Paragraph 120)

Maximising whole-life value

25. A whole-life value approach to construction procurement seeks to maximise the benefits and minimise the costs of a project across its life-cycle. It requires an integrated project team able to develop a design that creates best value for the client. However, it also requires clients to have the skills and long-term perspective to make investment decisions which are not based on short-term price. Government has made progress in encouraging a whole-life approach in the public sector, but in the words of the Minister: "There is a good deal more to do". We welcome the emphasis placed on whole-life value in BERR's *Strategy for Sustainable Construction*. We also welcome the publication of the OGC's supplement to the *Green Book* on whole-life appraisal in construction, which the Office should now seek to embed in procurement practice across government. It should support this by ensuring clients have the information to accurately quantify whole-life costs and benefits. Finally, the Government should make it mandatory for all public sector projects with a value in excess of £1 million to use a structured mechanism for assessing their design, such as the Design Quality Indicator. (Paragraph 127)

Collaborative contracts

26. Integrated team-working needs to be underpinned by contracts that foster collaborative rather than adversarial relationships between clients, their contractors and their sub-contractors. Unfortunately the industry does not seem able to do this for itself. As a result clients must take the lead. There are useful standard contract forms such as the NEC3 Engineering and Construction Contract, recommended by the Office of Government Commerce for all public sector construction projects. Despite this, a large proportion of government construction is still let using a variety of traditional contractual arrangements. Led by the OGC, departments should work towards the use of collaborative contracts as a matter of course, and ensure they are adopted throughout their supply chains. (Paragraph 132)

Project insurance

27. Integrated Project Insurance provides single cover for the entire project team, and could foster integrated working by encouraging the collective ownership of a project's target budget. It is an emerging concept, but one that could deliver benefits for all members of the project team. We encourage the OGC to set a target for the approach to be piloted across a range of departmental construction projects so it can be properly evaluated. (Paragraph 136)

Retentions

28. The practice of holding a retention against contractors as an insurance against defects undermines efforts to promote team-working and integrated supply chains in the construction industry. It also damages the cash-flow of smaller sub-contractors and reduces investment in training and innovation. Government has other means by which it can ensure the sector delivers good quality projects, for example where it has long-term framework arrangements in place. Given that the practice is at odds with the Government's promotion of integrated working through the Common Minimum Standards and the Construction Commitments, we urge it to require all parts of the public sector to end retentions as soon as possible. (Paragraph 143)

The 'Fair Payment' Charter

29. We welcome the introduction of the 'Fair Payment' Charter. The OGC should ensure all central government construction clients have affirmed their adoption of the Charter by the end of 2009. The Office should then aim for all local authorities to have signed up to it by the end of 2010. The OGC's monitoring of implementation should ensure that clients are adopting the principles of the Charter throughout the construction supply chain, and not simply between themselves and their main contractors. Where construction firms believe their client is not abiding by the principles of the Charter, we urge them to make representations to the Minister and to the OGC. (Paragraph 146)

Project Bank Accounts

30. Both the Office of Government Commerce and the National Audit Office have endorsed the use of project bank accounts as a means of improving payment practices and facilitating integrated working. Central government procurers should now start to make use of project bank accounts, where practicable and cost-effective. The OGC should monitor take-up and evaluate the benefits. (Paragraph 149)

Amending the Construction Act

31. The *Construction Act* provides the legal foundations for successful team-working. However, it is widely accepted that it still has some weaknesses. After years of consultation the Government has developed proposals, which it believes will address many of the industry's concerns, particularly those of sub-contractors. They appear to strike a sensible balance between the interests of main contractors and sub-contractors. BERR's aim now should be to ensure the amendments fulfil the policy objectives the Department has set out, and do not leave room for exploitation. It is vital that the next Session's opportunity to reform the legislation is taken. (Paragraph 155)

Measuring Performance

32. Integrated working should give teams an incentive to evaluate their performance and apply lessons learnt to future projects. Greater use of post-occupancy evaluation (POE) has the potential to benefit construction teams, their clients, and future clients through increased use of evidence-based design. We welcome the OGC's decision to mandate POE for central government departments, building on its initial pilot project, although we note that the work is mainly focused on office buildings. Once established, the scheme should be extended to cover all parts of the public sector as soon as possible to collect information on a range of different types of building. We hope the OGC and the industry will be able to use the information gathered to inform the construction of future public sector buildings. (Paragraph 161)

Improving economic sustainability

33. Overall, integrated team working can provide the way out of the vicious cycle of adversarial relationships and poor performance that have characterised the construction industry for so long. Paragraphs 23 to 32, above, have outlined a number of ways in which this can be facilitated. However, it requires a culture change by all the sector's participants—clients, contractors and sub-contractors. As the single largest construction client, government should be taking the lead in tackling that challenge. (Paragraph 162)

'Bogus' self-employment

34. The widespread practice of wrongfully classifying directly employed workers as self-employed, otherwise known as 'bogus' self-employment, creates significant costs for construction workers, clients, the wider industry, and the Exchequer. To tackle the

problem, HM Revenue and Customs' Construction Industry (tax) Scheme now places a greater onus on contractors to verify the employment status of their sub-contractors. The success of this new approach will depend on the collective 'buy-in' of contractors. Government must also ensure HMRC has the power and resources to monitor and enforce compliance. (Paragraph 177)

35. We welcome the setting up of the Vulnerable Worker Enforcement Forum and look forward to its recommendations. We hope it will give particular attention to whether the Gangmasters Licensing Regulations should be extended to cover construction workers. More generally, the public sector as client has a major role to play in providing long-term security of work for construction firms, which departments should actively take advantage of. Among the benefits this would bring is a real encouragement for contractors to take on more direct employees. (Paragraph 178)

ConstructionSkills and the Levy

36. The structure of the construction industry and the nature of its work create disincentives for many employers to invest in training and skills. The CITB-ConstructionSkills Levy provides an effective means of tackling this problem, which has the support of the majority of those who pay it. The Levy provides a vital means of funding for training, which contributes to the long-term skills needs of the sector. We support its continued use. (Paragraph 185)

Training routes into construction

37. Given that migrant labour is unlikely to provide a stable long-term solution to the skills needs of the construction industry, it is vital to attract more domestic recruits to the sector. The initial take-up for the now abandoned Construction GCSE suggests there is an appetite within schools to engage with the industry early on. We support the development of the new Construction and Built Environment Diploma and hope that it will provide a credible qualification and entry route for those considering a career in construction, as well as meeting the skills needs of employers. Given the importance of developing skills in this vital sector of the economy, its effectiveness must be rigorously and regularly reviewed. (Paragraph 189)

38. It is a disgrace that only a quarter of construction companies are training apprentices. We support ConstructionSkills' efforts to provide more flexible routes to on-site experience for trainees and their sponsors, such as through programme-led apprenticeships. Employers must now do their part by taking on more apprentices, tapping into the large number of people who want to work in the sector. The Government should also review its support for adult learners and specialist trades to provide greater flexibility of training provision to meet the needs of the construction industry. (Paragraph 194)

Training the existing workforce

39. There has been considerable progress in raising the skill levels of the existing construction workforce. We welcome the establishment of the National Skills Academy for Construction and support its project-based approach to delivering

training. We also commend the high level of take-up of the Construction Skills Certification Scheme (CSCS) and hope the industry will be able to achieve 100% coverage by 2010. However, clients must play their part in reaching this target. Public sector clients in particular should adhere to the Common Minimum Standards, and contractually oblige their supply teams to ensure their workforces are CSCS-carded. Contractors not committed to the Scheme should not be invited to tender for work. (Paragraph 198)

Workforce diversity

40. The vast majority of the construction workforce is white and male. This means there is a potentially huge pool of untapped talent which could relieve capacity constraints in the sector, and make the composition of its workforce more representative of wider society. Government as client to the sector is in a powerful position to effect change by ensuring contractors provide employment opportunities to atypical recruits. We welcome the explicit inclusion of promoting a diverse workforce in the industry's new Construction Commitments. We recommend that the Government strengthens this by making equal opportunities part of the Common Minimum Standards for public sector construction procurement. (Paragraph 204)

Health and Safety

41. We welcome the Strategic Forum's commitment to ambitious targets for reducing the number of workplace fatalities and major injuries over the coming years. After a period of steady decline in construction fatalities since the turn of the century, the number of deaths has increased significantly since 2005/06. Housing repair and maintenance has had the worst record, primarily because so much of the sector operates in the informal economy. To tackle this the Health and Safety Executive must devote more resources to inspection, whilst HM Treasury should look at ways of reducing the size of the informal economy, for example by conducting a full analysis of the overall consequences of cutting the rate of VAT on all repair and maintenance work. (Paragraph 218)

42. More generally, government as client has a vital role to play in improving performance. The Common Minimum Standards already state that clients should ensure all contractors are assessed for health and safety when tendering for work, and all workers should be registered on the Construction Skills Certification Scheme. But this is not happening. The new Construction, Design and Management (CDM) Regulations 2007 place a much greater emphasise on the client's role in ensuring health and safety, whilst the Corporate Manslaughter and Corporate Homicide Act 2007 provides the punishment in the event of a fatality due to organisational failings. The Government should use both of these to enforce a change of approach in public sector construction procurement, and to drive culture change across the sector. (Paragraph 219)

Environmental sustainability: the construction process

43. Reducing the environmental impact of the construction process is a key part of Government and industry's *Strategy for Sustainable Construction*. We support new targets for reducing waste, and for cutting energy and water consumption. Achievement of these is likely to stem mainly from economic incentives, as well as higher fuel costs. Any increase in taxation must be accompanied by greater enforcement activity against fly-tipping. The public sector as client also has an important role to play in improving the construction process. Integrated team delivery can reduce the waste arising from construction projects through early planning and engagement with the supply chain. We saw examples of this in our visits to the Royal London Hospital and the 2012 Olympic site in Stratford. Rigorous enforcement of the Common Minimum Standards by the Office of Government Commerce should also include requiring that all public sector projects are registered for the Considerate Constructors Scheme, or some equivalent. This will demonstrate best practice to the private sector, and help improve the public image of the industry. (Paragraph 230)

Environmental sustainability: the public sector as client

44. The joint Government and industry *Strategy for Sustainable Construction* includes a range of challenging targets for improving the environmental performance of the buildings it procures. If the Government is to meet these, a whole-life approach to project design will be key. HM Treasury must mandate the use of carbon accounting for the appraisal of all public sector construction projects. The Office of Government Commerce should also rigorously monitor progress against the BREEAM requirements for all new build to be rated 'Excellent' and all refurbishments 'Very Good'. However, the BREEAM standard should not be used in isolation to assess projects—it should be complementary to more specific output-focused targets for environmental performance. (Paragraph 239)

Environmental sustainability: the housing sector

45. What the Government cannot influence through its purchasing power it must achieve through regulation. Changes to the Building Regulations have led to significant improvements in the energy efficiency of new buildings. We support the Government's target for all new build homes to be carbon neutral by 2016, and the role of the *Code for Sustainable Homes* in achieving this, but we recognise the extremely ambitious nature of this target. The existing housing stock also needs to be made more sustainable. To this end, we continue to believe the Government should conduct a comprehensive review of the incentives for homeowners to improve the environmental sustainability of their dwellings. (Paragraph 244)

Strategy for Sustainable Construction

46. Overall, we welcome the Government and industry's joint *Strategy for Sustainable Construction* and hope that it will set the agenda for improving the long-term environmental performance of the sector. However, policy responsibility for

sustainable construction is particularly fragmented across government. The Strategy itself is the product of six different departments. It sets out which bodies are responsible for particular targets, but no individual has overarching responsibility for its delivery. A Chief Construction Officer would make an important contribution to co-ordinating policy delivery across departments and promoting sustainable construction. (Paragraph 245)

Construction R&D

47. Unlike most other developed countries the UK does not have a dedicated publicly-funded research and innovation programme for its construction sector. We believe this is unwise. Research and innovation is necessary to meet the Government's targets for sustainable construction and its own needs as a client. The structure of the construction industry and the nature of its work mean that the usual commercial drivers of R&D investment are either missing or very weak—if there is market failure, government support has to be provided. There needs to be an urgent assessment of the level of support, and how it should be supplied, followed by monitoring to ensure the support continues to meet the industry's needs. A Chief Construction Officer would be best placed to do this. We recognise that increased spending in one area has to be offset by decreases elsewhere, or an increase in revenue. However, the industry pays a considerable amount through the Landfill Tax and Aggregates Levies. We believe there is scope for recycling a proportion of these funds to the industry to help fund research, even if this means additional funds have to be provided, either from the taxpayer or the industry. Finally we note that a Chief Construction Officer could also co-ordinate public sector spending through the modest programmes that already exist to ensure its effectiveness is maximised. (Paragraph 263)

The Building Regulations

48. The construction industry believes the Building Regulations are too complex, and changed too often. We agree. We welcome the Government's proposals to create a framework to manage changes to the Regulations over a three-year cycle, and to limit amendments on any single issue to once every six years. We hope that this will effectively address the industry's concerns on the timing of changes and the way in which frequent changes hinder its strategic planning. We hope too that the Department for Communities and Local Government will use the first review cycle, which will begin in 2010, to address inconsistencies and overlaps in the current Regulations. We are, though, disappointed that a more radical simplification of the rules is not under consideration and believe the possibility should be re-examined. (Paragraph 268)

TrustMark

49. Companies need to be able to show that they are competent to give their clients confidence and to ensure a level playing field for competition amongst suppliers. We hope the TrustMark scheme will, in due course, become a recognised symbol of quality for builders in the same way that CORGI is for gas installers. This will take

time, but with some 16,000 builders already registered, the initiative has made good progress since its launch in 2006. It is in the interests of reputable companies that the scheme should succeed and we believe that the onus for funding and publicising the scheme falls on the industry and not the Government. (Paragraph 272)

Constructionline

50. The Government must reduce the burden that multiple public sector pre-qualification schemes impose on construction firms, particularly SMEs. Constructionline was set up to address this, but it has proved unsatisfactory for the industry. The Government should either make it work, or abandon it. If the consensus is that Constructionline cannot work as intended, then the Office of Government Commerce should consider how it might develop core criteria and mutual recognition between schemes. (Paragraph 276)

Cover pricing

51. The current controversy over 'cover pricing' can only have damaged the construction industry's reputation, and is at odds with the drive to raise standards. We cannot pre-judge the final verdict of the Office of Fair Trading's investigation. However, we do believe that its outcome should be to ensure that the practice of firms coordinating with each other to lose tenders for public sector work, as well as more serious instances of making compensatory payments, are both stamped out. It must, however, achieve this without damaging the industry's capacity. We also recognise that sensible clients should have procurement systems which do not create incentives to engage in cover pricing in the first place. (Paragraph 282)

Applying the lessons: The 2012 Olympics

52. The 2012 Olympic Games is a unique and complex construction programme managed by a one-off client. The adoption of an integrated team-working approach will be key to the delivery of the Games on time and to budget. Early indications suggest the Olympic Delivery Authority (ODA) is adopting most of the best practice required to foster such integrated working. However, construction work has only just begun. We hope in particular that the ODA will ensure its payment and contract practices are mirrored throughout the supply chain. We are disappointed that the construction industry itself has not been more enthusiastic in bidding for the main Olympic contracts, and we hope the ODA will have a better response for its remaining construction contracts. (Paragraph 289)

53. The ODA has made good progress in delivering a socially sustainable 2012 Olympics. It is demonstrating exactly the sort of engagement with the workforce that we would like to see in all large public sector construction projects. We are particularly encouraged by its health and safety record to date. We welcome also its commitment to provide substantial training opportunities and promote workforce diversity. If other public sector programmes followed this approach, it would significantly improve the industry's capacity to deliver. However, these efforts will be undermined if contractors are allowed to use 'bogus' self-employed workers. It is

regrettable that the Authority cannot legally mandate direct employment across the programme, but it should encourage a strong preference for it as far as possible. (Paragraph 294)

54. The ODA has shown that environmental concerns can be met if they are designed into the construction process from the outset. The challenge for the Authority in the future will be to ensure that contractors for the various Olympic venues adopt the same attitude, and that concerns over short-term costs do not militate against designs that promote whole-life value. (Paragraph 296)

Final Remarks

55. 2008 marks a potential turning point in the construction industry reform agenda. Whilst we recognise the current difficulties facing the sector, we hope that this Report, in conjunction with the launch of the Construction Commitments, the industry's new *Accelerating Change* targets, and the *Strategy for Sustainable Construction*, will provide the impetus for widespread improvement in the sector's performance in the long term. The industry has recognised that it has ultimate responsibility for ensuring its continued health, but government actions can help. The Government, because of its role as both client and regulator, can and must be at the forefront of the drive to embed best practice, and to facilitate the transfer of learning from frequent to infrequent clients. It needs to provide organisations such as BERR, the Office of Government Commerce and the Health and Safety Executive with the resources and power to achieve this. Furthermore, to give strategic leadership for the sector, there must be someone who both government and the industry accept as having overall responsibility for construction. Truly joined-up working between government and industry, and between different government departments, would be immeasurably improved by the creation of a post of Chief Construction Officer. And the Government should remember that, as the industry's largest single client, helping the sector to improve means that it and the taxpayer will directly benefit. (Paragraph 297)

Appendix: The Construction Commitments

Procurement and integration

A successful procurement policy requires ethical sourcing, enables best value to be achieved and encourages the early involvement of the supply chain. An integrated project team works together to achieve the best possible solution in terms of design, buildability, environmental performance and sustainable development.

- Procurement decisions will be transparent, made on best value rather than lower cost, use evaluation criteria and where appropriate, specialist advisors, whilst encouraging the contribution of smaller organisations;
- All members of the construction team will be identified and involved at an early stage, particularly during the design process and encouraged to work collaboratively;
- Supply chain partners will be required to demonstrate their competency, their commitment to integrated working, innovation, sustainability and to a culture of trust and transparency;
- To ensure effective and equitable cash-flow for all those involved, all contracts will incorporate fair payment practices, such as payment periods of 30 days, no unfair withholding of retentions, project bank accounts where practicable and cost effective and will include mechanisms to encourage defects-free construction;
- The duties of each project team member will be identified and shared at the outset of the project and appropriate insurance policies, such as project insurance, put in place;
- Risks will be clearly identified, financially quantified and allocated in line with each party's ownership and ability to manage the risk;
- All contracts will have an informal and non-confrontational mechanism to manage-out disputes; and
- The employment practices of all organisations, including sub-contractors and the self-employed, will be scrutinised by the client and the supply-chain to avoid abuses.

Commitment to people

Valuing people leads to a more productive and engaged workforce, facilitates recruitment and retention of staff and engages local communities positively in construction projects.

- Local employment projects and local training initiatives will be utilised in order to create sustainable communities;
- Local communities will be fully involved and engaged from the outset of all projects;

- Training and development will be offered to all staff, including the client, to meet individual, project and company needs;
- Opportunities for apprenticeships and work experience will be offered;
- A policy of equal opportunities will be adopted to encourage a diverse workforce;
- Project specific agreements will be established between unions and employers to encourage better employment practices, including training as well as health and safety;
- Construction sites will be clean, tidy and provide good quality facilities, including catering, appropriate to the diverse needs of the workforce; and
- Sites will be run considerately without causing nuisance to local communities.

Client leadership

Client leadership is vital to the success of any project and enables the construction industry to perform at its best.

- The client structure and responsibilities will be clearly identified and adequately resourced to ensure continuity in leadership for the duration of the project;
- There will be client commitment to best practice guidelines and engendering cooperation with all organisations involved in the project;
- A clearly expressed and well researched vision and business case for the construction project will be developed by the client;
- A detailed brief with clear financial objectives, programme and definition of what is meant by success will be developed by the client before the design stage for all projects and this will be shared at the outset with all those involved;
- The client will champion best practice in design, teamworking, innovation, health and safety and sustainability and demand an appropriately trained and qualified workforce;
- A clear, collaborative and flexible procurement policy will be developed by the client, together with a clearly expressed industrial relations' framework;
- The client will work within the project team from the outset of the project to identify and manage project risks; and
- Projects will be properly commissioned before handover.

Sustainability

Sustainability lies at the heart of design and construction. A sustainable approach will bring full and lasting environmental, social and economic benefits.

- The overarching government and industry *Strategy for Sustainable Construction* provides the framework for future construction projects;

- Each project will develop a specific Sustainability Action Plan which will address environmental, social and economic aspects and aim to exceed the highest levels within relevant standards and include all aspects of the supply chain;
- Targets, including the business case, will be set within all contracts and performance will be monitored and appraised regularly;
- Projects will incorporate best practice approaches to resource use, waste minimisation, low-carbon performance, employment, training and community engagement;
- Development plans will seek to enhance, create and protect the local natural environment;
- Projects will actively aim to enhance the vitality and viability of local communities.

Design quality

The design should be creative, imaginative, sustainable and capable of meeting delivery objectives. Quality in design and construction utilising the best of modern methods will ensure that the project meets the needs of all stakeholders, both functionally and architecturally.

- The client will produce a clear brief before design commences;
- Designers will be selected according to ability and quality, together with other criteria appropriate to the scale and complexity of the project;
- Every opportunity will be taken to encourage visionary designs, including art sculpture and to provide opportunities for emerging designers and artists;
- The design must suit the practical, functional and operational requirements of the building and meet both the client's and users' needs, to ensure that whole-life value is delivered by addressing buildability, maintainability and usability, whilst driving health and safety throughout;
- Project briefs will specify performance criteria to encourage innovation in order to deliver cost-effective solutions, taking advantage of opportunities for standardisation, prefabrication, off-site manufacture and adopting modern logistics principles;
- The design will be tested using third party design reviews and other tools for assessing design quality; and
- IT-based collaborative tools and communication technologies will be exploited.

Health and safety

Health and safety is integral to the success of any project, from design and construction to subsequent operation and maintenance

- All designs will address health and safety issues and all projects will have a risk register;

- Construction projects will aspire to be injury and incident-free;
- Every project will have a strategy to deal with occupational health and provide full-time qualified medical staff on site;
- All health and safety risks, including those relating to occupational health, will be assessed, managed, action taken and communicated from inception to design;
- Companies will sign up to and implement the Strategic Forum Health and Safety Code; and
- All professional and site staff will hold Construction Skills Certification Scheme (CSCS) cards or equivalent.

Formal Minutes

Tuesday 8 July 2008

Members present:

Peter Luff, in the Chair

Roger Berry	Mr Brian Binley
Mr Michael Clapham	Mr Mark Oaten
Mr Anthony Wright	

Draft Report (*Construction matters*), proposed by the Chairman, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 297 read and agreed to.

Summary agreed to.

A Paper was appended to the Report.

Resolved, That the Report be the Ninth Report of the Committee to the House.

Ordered, That the Chairman make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Written evidence was ordered to be reported to the House for printing with the Report.

Written evidence was ordered to be reported to the House for placing in the Library and Parliamentary Archives.

[Adjourned till Tuesday 15 July at 10.15 am

Witnesses

Tuesday 22 January 2008

List of written evidence

List of unprinted evidence

The following memoranda have been reported to the House, but to save printing costs they have not been printed and copies have been placed in the House of Commons Library, where they may be inspected by Members. Other copies are in the Parliamentary Archives, and are available to the public for inspection. Requests for inspection should be addressed to The Parliamentary Archives, Houses of Parliament, London SW1A 0PW (tel. 020 7219 3074). Opening hours are from 9.30 am to 5.00 pm on Mondays to Fridays.

Construction Products Association
Mr C N Jones

List of Reports from the Committee during the current Parliament

Session 2007–08

First Report	The work of the Committee in 2007	HC 233
Second Report	Jobs for the Girls: Two Years On	HC 291
Third Report	Post Office Closure Programme	HC 292
Fourth Report	Funding the Nuclear Decommissioning Authority	HC 394
Fifth Report	Waking up to India: Developments in UK-India economic relations	HC 209
Sixth Report	After the Network Change Programme: the future of the post office network	HC 577
Seventh Report	Keeping the door wide open: Turkey and EU accession	HC 367