HM Government

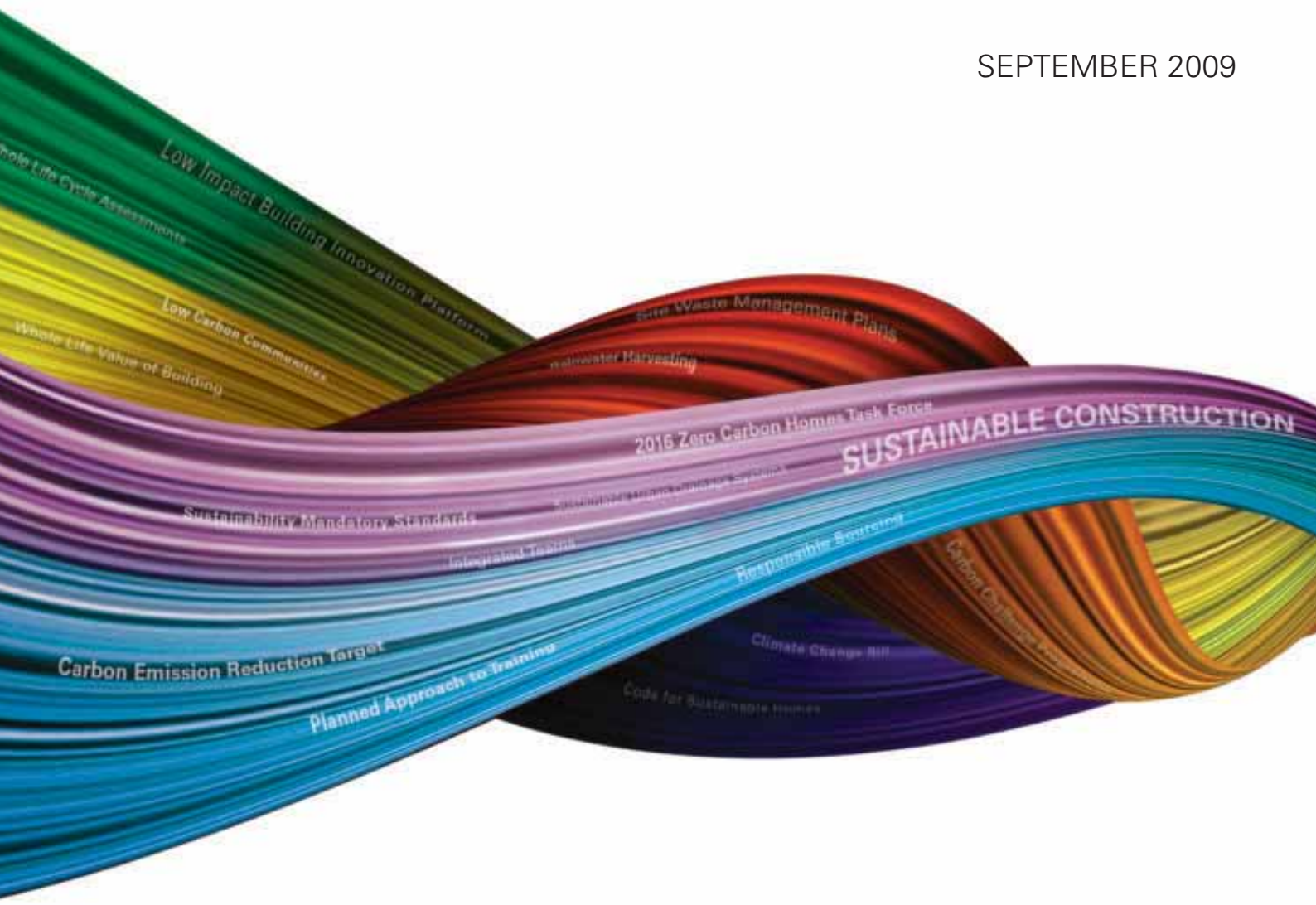
in association with

STRATEGIC FORUM FOR CONSTRUCTION

Strategy for Sustainable Construction

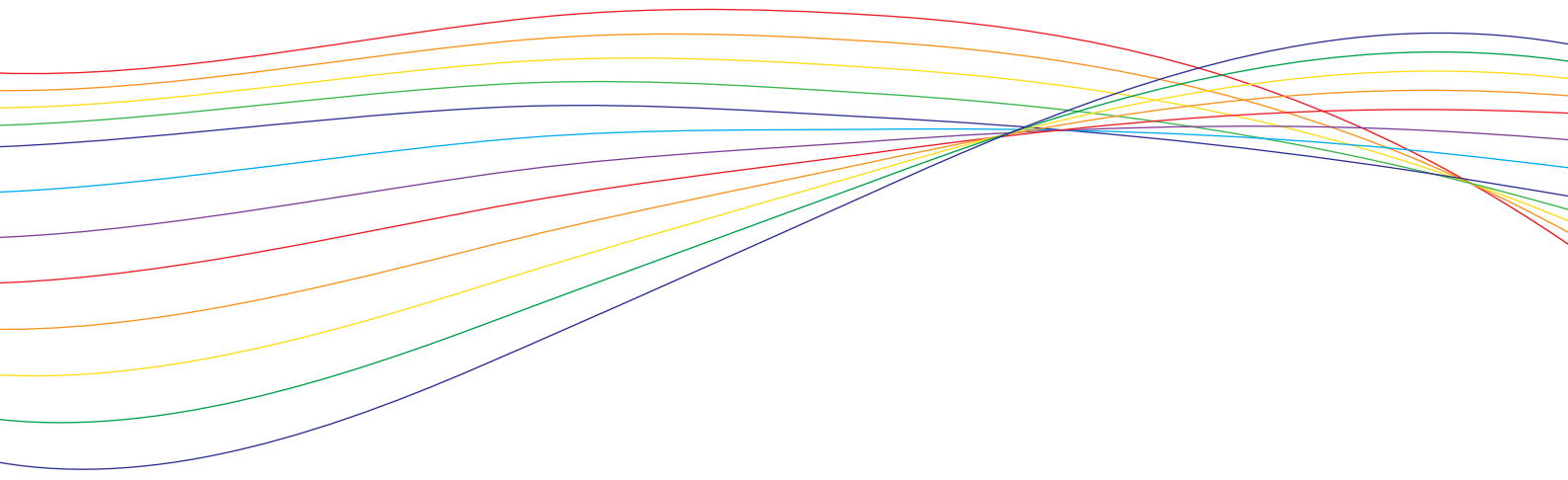
Progress Report

SEPTEMBER 2009



Building Britain's Future

Contents



1 Foreword

Since the publication of the Strategy for Sustainable Construction in June 2008, the world's economy has suffered a significant set-back and the financial conditions now prevailing are very different. The construction industry is not immune.

The messages contained in the Strategy are key to the future success of the industry. Organisations will need to respond to the challenges which are still emerging, through the maintenance of a healthy and skilled workforce and supply chain; by adhering to the tenets of corporate responsibility; and by incorporating environmental considerations into every facet of operations. This will all contribute to a financially, socially, and environmentally sustainable construction sector ready to meet the upturn in a stronger position than before.

The launch of New Industry New Jobs earlier this year recognises the need for sustainable growth across all sectors of the economy[1] and this is also reflected in the Low Carbon Industrial Strategy[2]. The combined effort of both the construction industry and Government, through procurement practices, will help to achieve these goals.

This 2009 report on the Strategy for Sustainable Construction indicates progress made by both industry and Government in the various aspects embraced by the sustainability agenda. It underlines the importance of industry and Government working together on a shared agenda and taking account of the Strategy for Sustainable Construction and its targets in their business planning. It indicates achievements and lessons learnt as well as highlighting where further progress is required.

It is through continuing to follow the principles set out in the Strategy for Sustainable Construction and this report that the construction industry can emerge as a world leader in sustainability.

1 http://www.berr.gov.uk/files/file51023.pdf

2 http://www.berr.gov.uk/files/file52002.pdf

Ian Lucas MP

Department for Business Innovation and Skills (BIS)

Lord McKenzie

Department for Communities and Local Government (CLG)

Sion Simon MP

Department for Culture Media and Sport (DCMS)

Lord Hunt

Department of Energy and Climate Change (DECC)

Dan Norris MP

Department for Environment, Food and Rural Affairs (Defra)

Ian Pearson MP

HM Treasury

Rt Hon Nick Raynsford MP

Chair, Strategic Forum for Construction

James Wates, Manus Adamson

UK Contractors Group and Construction Confederation

Keith Clarke

Construction Industry Council

Adrian Barden

Construction Products Association

Peter Woolliscroft

Construction Clients Group and British Property Federation

Trevor Hursthouse

Specialist Engineering Contractors' Group and National Specialist Contractors Council

2 Introduction

The construction industry is significant: its output is worth over £110bn a year. It accounts for 9.0% of Gross Value Added (GVA) and provides employment for over 3 million workers[3]. Some 30% of construction output is publicly funded with a further 10% accounted for by the Private Finance Initiative (PFI) and similar schemes.

The Strategy for Sustainable Construction[4] aims to drive forward the sustainable construction agenda by providing clarity around the existing policy framework, signalling the future direction of Government policy and showing what can be done towards achieving those aims. This report contributes towards that, by providing an update on the progress made towards the goal of more sustainable construction.

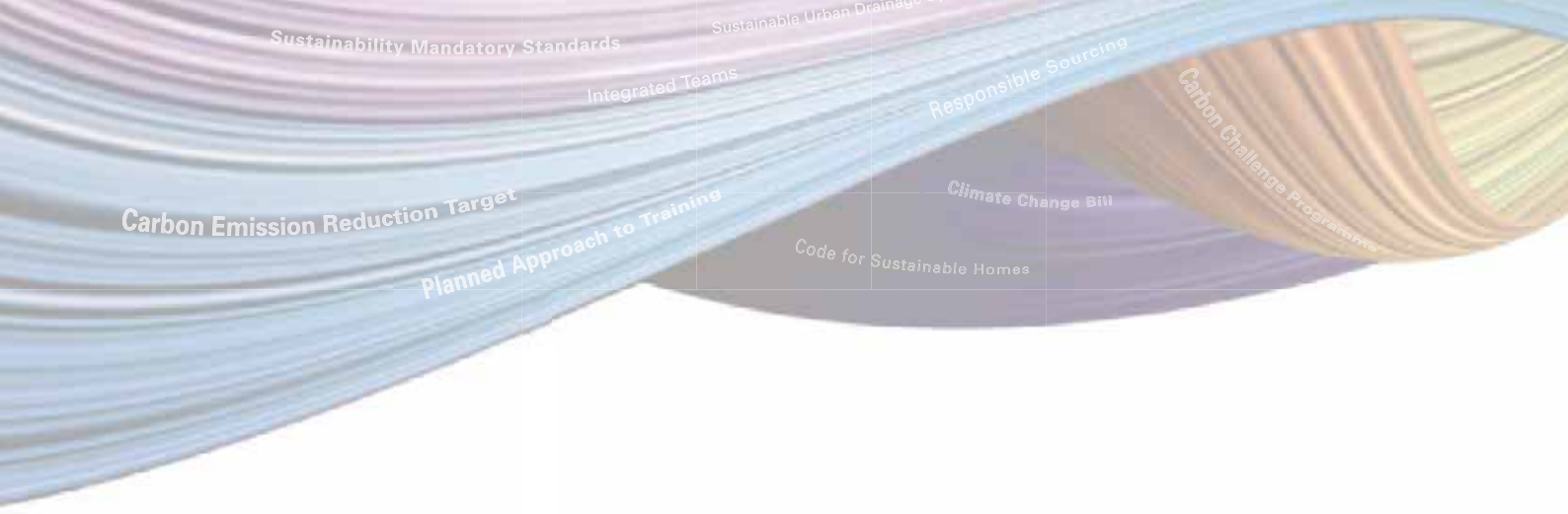
There have been significant achievements during the past year, including the passing of the Climate Change Act, developments under New Industry New Jobs, publication of the Low Carbon Industrial Strategy, and the UK Low Carbon Transition Plan[5], but more needs to be done.

In April this year (2009), the Prime Minister launched New Industry, New Jobs which sets out the Government's strategic vision for Britain's economic recovery. It presents a number of challenges and opportunities for the UK economy to respond to including the move to a low carbon economy. It makes the case for a more active role for Government where there are economic opportunities for the UK and where Government intervention can play a positive role. For low carbon this was taken forward in July with the publication of the UK Low Carbon Transition Plan and the Low Carbon Industrial Strategy.

3 2007 figures are the latest available from the Annual Business Inquiry, run by ONS: http://www.statistics.gov.uk/abi/

4 The Strategy for Sustainable Construction (2008) is for England. Policy for most aspects of sustainable construction is a devolved matter. Government departments continue to work closely with Welsh, Scottish and Northern Irish counterparts who are also driving forward the sustainable construction agenda.

5 http://tinyurl.com/n3w69x



The UK Low Carbon Transition Plan recognises the need for the construction sector to innovate and respond to the challenges presented by climate change and the shift to a low carbon economy. Alongside the Low Carbon Industrial Strategy, it set out the Government's belief that it should work in partnership with industry to seize the economic opportunities presented by the move to low carbon construction.

The Budget 2009 announced £1.4bn of extra targeted support in the low carbon sector. A significant proportion of this spending will feed into the construction sector by encouraging the deployment of low carbon technologies and supporting energy and resource efficiency for households and businesses.

Through the Climate Change Act[6], UK Government has committed itself to an ambitious 80% cut in greenhouse gas emissions by 2050 based on 1990 levels; and becomes the first country in the world to adopt a long-term legal framework for reducing emissions through a system of "five-year" carbon budgets, providing a clear pathway towards the 2050 target. With almost half of total carbon emissions coming from general day to day use of the built environment, primarily through water and space heating, the responsibility for Government policy to address this and for the construction industry to respond to these challenges is self-evident.

In relation to new build construction, tighter standards in the form of more stringent Building Regulations and enactments such as the Code for Sustainable Homes are major driving forces pushing the industry towards the goal of low carbon construction.

By far the biggest challenge will be in relation to the existing building stock (around 20 million dwellings plus non-domestic property) which account for most of the carbon emissions in

6 http://tinyurl.com/59mvqa

the built environment. Improving the energy efficiency of the existing stock is therefore a critical element in the delivery of carbon emission reduction targets. Initiatives such as the introduction of Energy Performance Certificates have been put in place by Government to enable existing buildings to make a contribution to meeting national targets and there is recognition that more will be required.

In an example of industry take up of the sustainability agenda the Joint Contracts Tribunal has amended and re-published its contracts to include new sustainability provisions.[7]

The current financial climate highlights the need to apply well honed techniques like 'lean' thinking[8] and value engineering to review all aspects of project design and delivery to drive out unnecessary processes, over-engineering and waste but which also drive resource efficiency, collaborative working and a commitment to continuous improvement.

There is growing recognition that 'lean' thinking, with its focus on delivering real value whilst simultaneously achieving improved competitiveness of the sector and delivering many sustainability objectives, now needs to be considered as a key instrument for the delivery of objectives set out in the Strategy for Sustainable Construction. It follows that lean thinking should form a central part of organisations' sustainability strategies. A number have embraced 'lean' thinking, including the Waste and Resources Action Programme (WRAP) and the Royal Institute of British Architects (RIBA) who have launched a competition to identify ways that construction waste can be reduced through design.[9]

What is of equal importance, alongside the innovation necessary to deliver reduced costs is that we continue to build to a high standard of design quality. A well designed building, integrated with its environment and neighbourhood and of high environmental standards will stand the test of time. Good design means not over-engineering, indeed great design can often be the simplest solution. Following these principles the Department for Children Schools and Families (DCSF) has implemented a minimum design threshold for all its Building

7 http://tinyurl.com/n74x9x

8 The concept of 'lean' thinking based on improvement techniques pioneered by Toyota Motor Company.

9 http://tinyurl.com/ppd9tv

10 http://www.cabe.org.uk/

Schools for the Future projects, supported by the Commission for Architecture and the Built Environment (CABE)[10].

Defra's[11] UK Climate Impacts Programme (UKCIP) recently launched a new set of climate change projections[12], which provide a series of potential scenarios for climate change in the UK, taking us up to the end of the century. Whilst these demonstrate the importance of reducing greenhouse gas emissions, a certain amount of climate change is already unavoidable. New buildings and infrastructure will need to be built and much existing stock retrofitted to be resilient to future climate change.

The Environment Agency is working in partnership with the construction sector and aims to provide guidance on environmental priorities, objectives and indicators for performance agreed with major stakeholders. This will include better approaches for low risk activities and enhanced ways to demonstrate compliance for some priority issues including pollution, waste, and waste crime.

11 Department for Environment, Food and Rural Affairs

12 http://ukclimateprojections.defra.gov.uk/

Targets

The headline targets in the Strategy are:

	Chapter Headings	Overarching Target
The 'Means'	**Procurement**	To achieve improved whole life value through the promotion of best practice construction procurement and supply side integration, by encouraging the adoption of the Construction Commitments in both the public and private sectors and throughout the supply chain.
	Design	The overall objective of good design is to ensure that buildings, infrastructure, public spaces and places are buildable, fit for purpose, resource efficient, sustainable, resilient, adaptable and attractive. Good design is synonymous with sustainable construction. Our aim is to achieve greater use of design quality assessment tools relevant to buildings, infrastructure, public spaces and places.
	Innovation	To enhance the industry's capacity to innovate and increase the sustainability of both the construction process and its resultant assets.
	People	An increase in organisations committing to a planned approach to training (e.g. Skills Pledges; training plans; Investors in People or other business support tools; Continuous Professional Development (CPD); life long learning).
		Reduce the incidence rate of fatal and major injury accidents by 10% year on year from 2000 levels.
	Better Regulation	A 25% reduction in the administrative burdens affecting the private and third sectors, a 30% reduction in those affecting the public sector by 2010.
The 'Ends'	**Climate Change Mitigation** **Please note that the original target has been revised.**	Reducing total UK greenhouse gas emissions by at least 80% on 1990 levels by 2050 and by at least 34% by 2020[13]. As part of the UK's Low Carbon Transition Plan to meet these targets, Government has already set out its policy that new homes will be zero carbon from 2016, and an ambition that new schools, public sector non-domestic buildings and other non-domestic buildings will be zero carbon from 2016, 2018 and 2019 respectively.
	Climate Change Adaptation	To develop a robust approach to adaptation to climate change, shared across Government.
	Water	To assist with the Future Water vision to reduce per capita consumption of water in the home through cost effective measures, to an average of 130 litres per person per day by 2030, or possibly even 120 litres per person per day depending on new technological developments and innovation.
	Biodiversity	That the conservation and enhancement of biodiversity within and around construction sites is considered throughout all stages of a development.
	Waste	By 2012, a 50% reduction of construction, demolition and excavation waste to landfill compared to 2008.
	Materials	That the materials used in construction have the least environmental and social impact as is feasible both socially and economically.

13 The 2020 target will be tightened following a credible global deal on climate change.

Progress with each of these is broadly on track. Specifically:

The original target for Climate Change Mitigation has now been revised in the Climate Change Act to be an 80% (previously 60%) cut in greenhouse gas emissions by 2050 on 1990 levels, and 34% by 2020. A system of five-year "carbon budgets", starting from 2008, sets the emissions reduction trajectory towards these targets. The UK Low Carbon Transition Plan sets out proposals and policies for meeting the first three carbon budgets, and achieving the 34% reduction target. On the basis of current central projections, the policies in the Plan will over-deliver against this target, with a small contingency margin.

The Government is on track to meet its 25% administrative burden reduction target (or approximately £3.4bn net annual savings) by 2010. In December 2008 Government reported its progress to date – delivery of £1.9bn of net annual savings.

There were 53 (provisional) construction fatalities during the period 2008/09, down from 72 (final, 2007/08). The rest of the statistics for 2008/09 (major and over 3 day injuries and ill-health) are not released until October 2009. Despite the welcome marked reduction in fatalities, the changes to date have fallen short of the challenging targets set – to reduce the incidence rate of fatal and major injury accidents by 10% year on year from 2000 levels (105 fatalities for 2000/01).

WRAP has had over 150 signatories, representing more than 25% of the construction industry by value, to their Halving Waste to Landfill commitment which helps to deliver the Strategic Forum for Construction's target of a 50% reduction in Construction Demolition and Excavation (CD&E) waste going to landfill by 2012. Work is ongoing in minimising CD&E waste going to landfill through the work of the Strategic Forum for Construction's Sustainable Construction Task Group.

Although progress has been good, with some deliverables it has been slower than envisaged in the original Strategy. For instance, progress on:

- Biodiversity toolkit for planners (refer to the Biodiversity chapter)
- Compliance with BREEAM targets on Government Estate (refer to the Design chapter)
- Increase in trained workforce and apprentices (refer to the People chapter)
- Decrease in water consumption on the Government Estate (refer to the Water chapter)

Specific progress on the actions and deliverables under each of the overarching targets are listed in the following chapters.

3 Procurement

OVERARCHING TARGET

To achieve improved whole life value through the promotion of best practice construction procurement and supply side integration, by encouraging the adoption of the Construction Commitments[14] in both the public and private sectors and throughout the supply chain.

Progress

Delivering the principles contained in the Construction Commitments more widely across the industry is a challenging process of culture change. However, if we are to achieve sustainable construction, that culture change is essential – in client organisations and throughout supply chains. There has been a broad range of activities and interventions to help ensure that the procurement function actively promotes that agenda.

The Strategic Forum for Construction continues its efforts to drive up standards through the Commitments and there have been a number of important actions in this period. Of particular note has been the development and launch of the Clients Commitments and the associated simple guidance.[15]

14 www.strategicforum.org.uk

15 http://tinyurl.com/ckttk6

Through the 'Buy Sustainable – Quick Wins'[16] initiative, Defra is the lead department for setting minimum, mandatory environmental specifications for products and services procured by central Government departments and their executive agencies. These specifications, which are largely performance related, are developed across a range of priority product groups, including construction products, and are designed as a means for Government to provide leadership in stimulating demand for innovative, low carbon and more resource efficient products. Support for delivery and compliance with the framework is overseen by the Centre of Expertise in Sustainable Procurement (CESP) in the Office of Government Commerce (OGC).

Following detailed consideration of the subject by a PSCCF[17] Working Group on whole-life value in the procurement of construction, the Office of Government Commerce has published a "Client Guide to Construction Appraisal and Evaluation"[18] as supplementary guidance to the Green Book[19].

The Government is also promoting the use of outcome-based specifications by public sector procurers. In November 2008, the Government launched a competition on the theme of 'Innovation for Sustainability' to encourage projects using Forward Commitment Procurement (FCP) in which public sector procurers agree in advance to buy innovative goods or services. The competition aims to build up a community of practitioners able to promote the wider use of this technique throughout the public sector.

The reform of the Small Business Research Initiative (SBRI) will provide departments with a powerful tool for seeking technology innovation in their procurement of goods and services. The Technology Strategy Board's 'Retrofit for the future' SBRI competition, developed in partnership with the Department for Communities and Local Government (CLG) and the Homes and Communities Agency (HCA), has challenged the industry to develop and demonstrate solutions to retrofit the social housing stock that will deliver deep cuts in energy use and carbon emissions, aiming to stimulate

16 http://tinyurl.com/ltgn7b

17 Public Sector Construction Clients' Forum: http://tinyurl.com/yntusz

18 http://tinyurl.com/l4s4e4

19 http://tinyurl.com/mggks5

the retrofit housing market and to develop the supply chain. Future Government procurement will take account of the results of the competition and the Knowledge Transfer Network for the Modern Built Environment (MBE-KTN)[20] will be used to diffuse the results of the competition widely within the industry.

Future Work

The Government continues to liaise closely with the Strategic Forum for Construction (SFfC) – in particular through the integration task group – and the Construction Clients Group. The Integration Task Group (ITG) is currently developing promotional material both in hard copy and on-line to reiterate the business case for integration, along with a series of Plain English Guides.

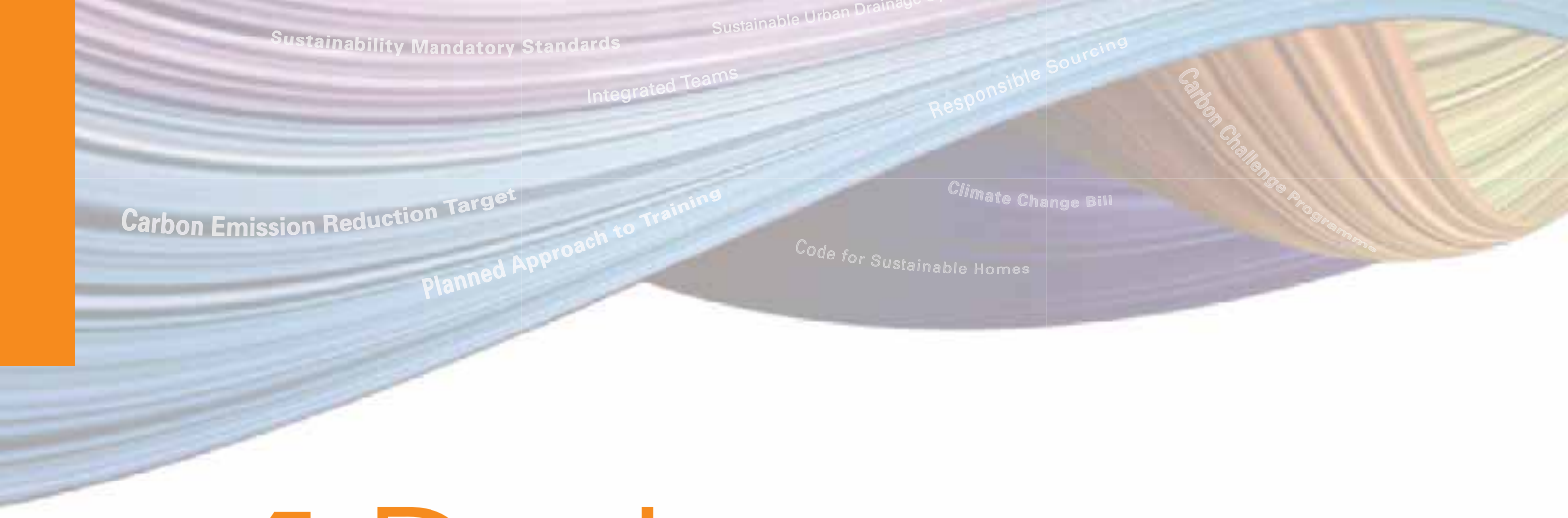
The proposed Construction Category Strategy sets out the PSCCF's agreed strategy for the procurement of construction. Included in it is a common approach to measuring organisations' progress in implementing the agreed strategy.

From September 2009, Defra will be involved, as part of a consortium of organisations from across the EU, in a project aimed at identifying how networks of public procurers in the EU can facilitate the market development of innovative, more sustainable construction products.

20 http://tinyurl.com/dkqhuq

Target	Delivery Body	Timescale
Progress		
Parts of the industry – clients, consultants, main contractors, specialist contractors*, 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. * These targets apply to those specialist contractors involved in Mechanical & Electrical work. For other specialists, the target is to establish, by 2012, a mechanism for measuring integration in their sector.	Strategic Forum – Integration Task Group	2012
Initial measurement takes place later in 2009. The SFfC Integration Task Group (ITG) has developed a diagnostic tool to measure the business case for integration; has formed a training sub group and developed an action plan to assist Universities and Higher Education to include integration within their courses; and has formed a contracts subgroup to look at obstacles to integration.		
35% of client activity, by value, embraces the principles of the Clients' Commitments.	Strategic Forum – Construction Clients Group	2010
Completed. The Construction Clients Group (CCG) launched the Construction Clients Commitments in November 2008. These have now been adopted by all 32 of the CCG members. The Commitments are being supported by Guides, tools and training. These are currently being piloted by the CCG. View at http://www.clientscommitments.org.uk/		
60% of client activity, by value, embraces the principles of the Clients' Commitments.	Strategic Forum – Construction Clients Group	2012
On track. See actions above.		
BIS / Strategic Forum – Integration Demonstration Projects.	Strategic Forum	Ongoing
On track. The ten projects have been agreed and the SFfC ITG is acting as mentor on these projects.		
BIS / OGC / Constructing Excellence Best Practice Roadshows. (Nature of target has changed.)	BIS / Constructing Excellence	2009
Department for Business Innovation and Skills (BIS) is co-sponsoring the Prime Minister's Better Public Building Award with OGC and CABE. Working with Hampshire County Council and South East Regional Improvement and Efficiency Partnership on dissemination.		
Review of Procurement Strategies set out in Achieving Excellence to ensure alignment with the delivery of whole life value.	OGC	2008
Completed – Review confirmed that recommended procurement routes are delivering value. The skills related recommendations have been incorporated in the Construction Category Strategy.		
Creation of a Centre of Expertise in Sustainable Procurement.	OGC	2008 / 2009
Complete. CESP created in 2008.[21]		
Development of simple "how to" guidance for clients.	Strategic Forum – Construction Clients Group	2009
On track. CCG is currently chairing a BSI Committee developing a process based standard for construction procurement. This is due to be published by the end of 2009.		

21 http://www.ogc.gov.uk/cesp.asp



4 Design

OVERARCHING TARGET

The overall objective of good design is to ensure that buildings, infrastructure, public spaces and places are buildable, fit for purpose, resource efficient, sustainable, resilient, adaptable and attractive. Good design is synonymous with sustainable construction.

Our aim is to achieve greater use of design quality assessment tools relevant to buildings, infrastructure, public spaces and places.

Progress

The Construction Industry Council (CIC)[22], with the support of the Department for Children, Schools and Families (DCSF) is investing in promoting appropriate use of Design Quality Indicators (DQIs)[23] in the education sector, especially primary schools. It is also promoting the adoption of DQI's in other sectors to help play a part in meeting the objectives of a minimum design standard for every public building announced recently by the Government[24]. Work in some sectors, such as the Building Schools for the Future (BSF) programme[25], is demonstrating continuous improvement in overall perception of the quality of buildings being built, but some sectors such as housing remain challenging.

22 http://www.cic.org.uk/

23 http://www.dqi.org.uk/

24 http://tinyurl.com/ojpu5y

25 http://tinyurl.com/lj3ksg

In May 2009 the Department for Culture Media and Sport (DCMS) and CLG jointly launched "World Class Places: The Government's strategy for improving quality of place"[26]. This Strategy sets out the important role that high quality places play in improving people's quality of life and the economic success of a town or city. An Action Plan is due to be published at the end of the summer (2009), which will set out actions to deliver on the Strategy along with timescales and milestones for delivering them.

In May 2009, a minimum design standard for all new schools built under the BSF programme was also announced[27]. Designs falling short of the standard will not be built, and taxpayers will be guaranteed value for money from the Government's investment in the BSF programme. The new design threshold will ensure that environmental concerns and sustainability issues are reflected in the programme. Designs for BSF schools will continue to be assessed by CABE's Schools Design Panel.[28]

In July 2008 CLG published a set of revised core output indicators[29] which introduced Building for Life as the indicator of housing quality (Indicator H6).This indicator consists of the number and proportion of total new build completions of housing sites reaching "very good", "good", "average" and "poor" ratings against the Building for Life criteria.

CABE has published the Sustainable Cities web resource[30] which provides guidance for Local Authorities on the sustainable design and management of our towns and cities.

Sustainability also remains an important element of English Heritage policy and action on the adaptation of existing building stock. English Heritage will continue to publish detailed research and guidance relating to climate change and its implications for the historic environment.[31]

26 http://tinyurl.com/ojpu5y

27 http://tinyurl.com/mtsvdg

28 http://tinyurl.com/ng9yj7

29 http://tinyurl.com/nmq7r2

30 http://www.sustainablecities.org.uk

31 http://tinyurl.com/kjhl3b

Future Work

CABE will train a Building for Life assessor[32] in each English Local Authority by 2011. Building for Life assessors will help with the assessments for the annual monitoring reports but will also conduct assessments at the pre-planning stage. The commitment is to enable Local Authorities to act consistently when negotiating and assessing design quality. A number of the assessment criteria for Building for Life reflect the importance of sustainable design and construction in our new housing developments.

Target	Delivery Body	Timescale
Progress		
10% increase year on year from 2007 levels in the proportion of projects using DQI in public buildings (custodial, police, fire, courts and other public projects), housing, and education projects.	Strategic Forum – Construction Industry Council	2010
Overall increase of 11% in 2008.		
10% increase year on year in the number of times the projects above use DQI.	Strategic Forum – Construction Industry Council	2010
It is still too early to report formally, as we will need to compare 2008 with 2009, but the first five months of 2009 show a significant improvement, in excess of 20%, over 2008.		
Continued 10% per annum growth from 2010 levels in both of the first 2 targets.	Strategic Forum – Construction Industry Council	2012
Not in scope at the moment considering timescales.		
80% of projects to achieve at least 50% demand side representation at all workshops.	Strategic Forum – Construction Industry Council	2010
In 2008 just over 80% (80.2%) had at least 50% demand side representation. CIC has worked with users of the tool to improve the engagement of the demand side, and this seems to be paying off as in the first five months of 2009, 88.3% of events had at least 50% demand side representation.		
Full compliance with targets set in 2006 to achieve BREEAM[33] 'excellent' for new builds and 'very good' for major refurbishments procured by Central Government, supported by the Centre of Expertise in Sustainable Procurement (CESP) within OGC.	SDC (for monitoring)	Immediate (2008)
CESP dialogue plan in place. BREEAM 2008 launched in August of that year. The Sustainable Development in Government (SDiG) report[34] shows an unfavourable view of performance. A review of the mandated mechanisms[35] has been carried out. OGC is now working with departments to address the causes of non-compliance and to ensure full compliance in the future.		

32 http://www.buildingforlife.org/assessments/training

33 Building Research Establishment Environmental Assessment Method

34 http://tinyurl.com/m84cuf

35 Refer to: http://tinyurl.com/mz9vya

5 Innovation

OVERARCHING TARGET

To enhance the industry's capacity to innovate and increase the sustainability of both the construction process and its resultant assets.

Progress

Many of the target actions and deliverables are driven by the need to understand the key issues to be addressed and the potential solutions the industry should and can adopt, either collectively or individually. Progress has been made, with the National Platform and the Modern Built Environment Knowledge Transfer Network (MBE-KTN) identifying priority strategic research areas and the MBE-KTN improving outreach though increased numbers of registered members.

The Technology Strategy Board (TSB) is working with partners to catalyse business innovation and enable it to harness the market for environmentally sustainable buildings through the Low Impact Buildings Innovation Platform (LiB IP). Over £3m has been invested to date on projects leading to the development of new components and materials for zero carbon buildings, and over £30m of capability building work is planned over the next 2 years with up to £8.5m in new build demonstration programmes. Furthermore, the work under the Innovation Platform has been extended to retrofitting existing buildings to both mitigate, and adapt to, climate change. In the first instance, this will be achieved through a Small Business Research Initiative (SBRI) competition, developed in partnership with CLG and the HCA, on the market generated for retrofit of social housing.

More widely:

- The EU Lead Markets Initiative[36] on sustainable construction has established working groups in three key areas: Sustainable Construction Strategies (Chaired the UK's Department for Business, Innovation and Skills, BIS); Life cycle costs and public procurement; and Regulatory Frameworks and Standardisation.
- The Comité Européen de Normalisation (CEN) Working Group has established 7 Basic Works Requirements Groups to carry out an inventory of sustainability within existing standards with initial roadmaps to be presented in October 2009.
- The Foresight project, "Powering Our Lives: Sustainable Energy Management and the Built Environment" was launched on 26 November 2008 and is the basis for current briefing sessions within Government.
- In July 2009 the Energy Technologies Institute (ETI) called for proposals on the use of Micro Distributed Energy and Energy Services Management in existing Residential Buildings. As part of its future programme portfolio (2009-2011), it also announced an intention to develop a programme for retrofit technology to improve energy efficiency in UK domestic buildings.
- Following discussions with industry representatives, the general view was that the current product approvals regime works well. BIS is now examining the help available to innovators and the route to market, including the potential value of a product development roadmap. A full response by the Commission for Environmental Markets and Economic Performance (CEMEP)[37] is due in January 2010.

36 http://tinyurl.com/nr6bcc

37 http://tinyurl.com/nsvk7e

Future Work

Lean and agile approaches to production drive the adoption of processes which improve efficiency, enhance value to clients and achieve sustainability objectives. The full potential of deploying ICT systems such as Building Information Modelling (BIM), as part of a lean agenda, is being increasingly recognised by clients and their construction supply chains. A future focus of the UK will be to encourage the greater adoption of BIM-enabled lean production and operation systems. In the longer-term, the full extent of the potential for BIM to deliver sustainability needs to be explored and in particular its integration with other organisational management systems to gain the efficiency benefits similar to Manufacturing Resource Planning (MRPII)[38] and Enterprise Resource Planning (ERP) in the manufacturing and other sectors.

A significant development is the 10-year, €2 Bn PPP Technology Initiative on Energy Efficient Buildings (E2B)[39], proposed by the European Commission in response to the sector across Europe. Arup is leading development of the E2B's programme, and a UK consortium to engage with it. E2B aims for long-term, large scale, pan-European Research and Development (R&D) and, importantly, district-scale demonstration activities and should help boost the UK sector's engagement in, and learning from, Commission supported research.

The next Community Innovation Survey is due in 2010, with the new innovation index due to go live in 2010. Grant awarding programmes in the UK, such as the LiB IP have been oversubscribed, although UK construction is still weakly represented in EU Framework and international R&D activities.

38 http://tinyurl.com/l57xus

39 http://www.e2b-ei.eu/default.php

Target	Delivery Body	Timescale
Progress		
Complete and publicise the National Platform's Strategic Research Agenda (SRA) shaping medium to long term research priorities in Reduced Resource Consumption; Client orientated value; and information technology and automation. The aim is to promote awareness and engagement with the research agenda and influence R&D direction and support.	National Platform / MBE-KTN Consortium	By Sept 2008
SRA document completed June 2009. Sector survey identified 54 industry and knowledge-base organisations willing to join consortia to take forward National Platform priorities. Further publicity, including boardroom briefings, is being developed.		
Low Impact Building Innovation Platform – 1st stage – the development of collaborative R&D and Design challenge competitions. 2nd stage activities will develop demonstration and procurement opportunities.	TSB	2011
First call (components) complete, second call (design and decision tools) went out in June 2009, third call (post-occupancy) scheduled for Autumn 2009.		
To ensure the Knowledge Transfer Network attracts a critical mass of construction businesses, and identifies areas where it has added value with members successfully exploiting new technologies and techniques including learning from overseas and other industries.	TSB / MBE-KTN Consortium	to Summer 2009
Over 7000 current registered members of KTN. TSB completed final review of first 3-year programme. Approval granted for continuation of MBE-KTN for a further 3 years subject to approval of business plan for 2009-2012. Sector Boards replaced by cross-cutting thematic groups.		
NESTA to create a new annual innovation index to "measure British innovation in the round".	NESTA	Pilot published 2009; Full index autumn 2010
Following an open call for ideas and the commissioning of support projects in January 2009, the pilot index is now due for launch in Autumn 2009.		
Develop a third phase of the Sustainable Urban Environment Research Programme.	EPSRC	2008
"Grand Challenge" Workshop was held in July 2009, to define work to be supported under the third phase of the programme.		

Target	Delivery Body	Timescale
Progress		
Eco-towns initiative. Creating up to 10 new socially, economic and environmentally sustainable (zero-carbon) new settlements of up to 20,000 homes.	CLG	2016 (up to five Eco-Towns) 2020 (up to 10)
'Planning Policy Statement: eco-towns' was published in July 2009[40]. The shortlisted locations (Whitehill-Bordon, Rackheath, North-West Bicester and St Austell (China Clay Community)) have been subject to a rigorous Sustainability Appraisal/Habitats Regulation Assessment, and Financial Viability Study to ensure that eco-towns will achieve the highest standards of sustainability and deliverability and contribute to innovation tackle climate change.		
The Carbon Challenge Programme will help accelerate the home building industry's response to climate change by fast-tracking the creation of a number of new zero carbon communities initially on EP owned sites which will meet the zero carbon, water, waste and other targets of Code level 6.	English Partnerships	2009 (first completed units). 2011 (First completed development)
The first of the Carbon Challenge projects, Hanham Hall near Bristol received planning approval May 2009, subject to a Section 106 agreement (provision of infrastructure, facilities etc). Start on site is due September 2009, with the first homes scheduled for summer 2010. Master-planning has been finalised on the second site (nr. Peterborough) and detailed drawings being prepared for a planning application late in September. Work has commenced on the early infrastructure contract for the third site at Wigan.		
Ensure UK co-develops relevant research studies and co-ordinates collaborative R&D support on sustainable construction with partners in the proposed new European Construction Research Area network: ERACOBUILD.	BIS	Autumn 2008 to Autumn 2011
First Eracobuild meeting held January 2009. Initial work in 2009 to identify synergies in national sustainable renovation programmes and a joint call for proposals, similarly on value-driven industrialisation and automation processes. TSB involvement provides linkage to UK Low Impact Buildings platform, including "retrofit for the future" activity.		

40 http://tinyurl.com/dggvfn

6 People

OVERARCHING TARGET

Work to increase the number of organisations committing to a planned approach to training (e.g. Skills Pledges; training plans; Investors in People or other business support tools; Continuous Professional Development (CPD); life long learning) has been at the heart of the approach adopted for the Strategy.

On health and safety, the target is to reduce the incidence rate of fatal and major injury accidents by 10% year on year from 2000 levels.

Progress

The role of the built environment Sector Skills Councils (SSCs) has been key. ConstructionSkills[41] (building / civil engineering) set targets to increase the number of organisations adopting training plans or committing to Investors in People (or other business support tools): to 6,400 by 2010, and 9,400 by 2015. Proskills put in train the development of a sector-specific Skills Pledge and an Action Plan for the building products sector.

ConstructionSkills report that their 2010 targets are set to be exceeded, although due to the downturn the 2015 target may prove to be too ambitious, and will almost certainly need revising. Revised targets for 2015 have yet to be set.

41 www.constructionskills.net

The Strategy noted that activities relevant to developing sustainable communities are covered in the programmes of the Homes and Communities Academy (HCA) (formerly Academy for Sustainable Communities (ASC)) and highlighted the importance of the SSCs and HCA working together. In June 2009, around 23 organisations, including SSCs, CIC, professional institutions, and the HCA joined forces to develop an Action Plan, 'Delivering Better Skills for Better Places'[42]. Its aim is to accelerate the development of a flexible, knowledgeable and highly skilled workforce, and ensure that there are enough people with the technical, specialist and transferable skills to deliver sustainable communities.

Funded by ConstructionSkills, the Learning and Skills Council and London Development Agency (LDA), The National Skills Academy for Construction (NSAfC) has been set up on the Olympic Park to help meet the demand for increases in highly skilled workers.

The Academy will use regional training hubs such the Thames House campus in East London, which opened in April 2009, and will provide 2,000 training places per year. This will complement the work of the Plant Training Centre from which around 400 people have graduated since its launch in February 2008.

Separately, SummitSkills have been taking forward structural work on a new qualifications regime, which will incorporate elements including rain water harvesting. This is likely to influence training demand for plumbers and domestic heating engineers.

In terms of measures relating to the training of plumbers and facilities managers on water efficiency, including standards aspects, this is still work in progress. However, these matters are regarded as important, and remain on the longer term agenda.

42 http://www.hcaacademy.co.uk/whatwedo/skap

Future Work

There are a number of different organisations working in this area. However, recent research evidence from the UK Green Building Council (UKGBC) points to a continuing need for Information, Advice and Guidance (IAG), for both the management and the workforce. Findings also highlight concern about the variable quality of available training provision. The UKGBC is working with stakeholders, including ConstructionSkills, on possible solutions to these challenges.

Industry bodies continue to play an important role in driving awareness of sustainable construction issues, and a training culture. Over recent months the National Specialist Contractors Council and the National Federation of Builders have each set up programmes to promote the training and development of those who work in their sectors.

SummitSkills is continuing to work closely with CLG and other stakeholders in connection with competent person schemes and Building Regulations, especially Part G, with a view to developing the relevant competencies of new and existing workers.

There is a programme of ongoing work being taken forward by the Health and Safety Executive (HSE), and the industry under the auspices of the Strategic Forum for Construction, to improve health and safety in construction.

Target	Delivery Body	Timescale
Progress		
Net increase of 230,000 qualified people recruited and trained in the industry compared with 2006.	Strategic Forum	2010
The economic conditions are such that it is becoming increasingly difficult to meet this target. Estimated job losses from the downturn could be 450,000. Net increase in number of individuals entering the construction industry (as defined by ConstructionSkills' SSC footprint) 2006 – 50,012 2007 – 85,807 2008 – 66,087 Source: ConstructionSkills; Office for National Statistics, Labour Force Survey		
Net increase of 260,000 qualified people recruited and trained in the industry compared with 2006.	Strategic Forum	2012
See above.		
To achieve 13,500 apprenticeship completions in England, Wales and Scotland by 2010 and to increase this to 18,700 a year by 2012.	Strategic Forum	2012
The economic conditions are such that it is becoming increasingly difficult to meet this target. Estimated job losses from the downturn could be 450,000. Apprentice Completions in England Wales and Scotland: 2006 – 6,916 2007 – 7,475 2008 – 8,082		
Promotion of Investors in People, other business support tools, and Skills Pledge through Company Development Advisors (ConstructionSkills), and CS central marketing.	ConstructionSkills	2008 and continuing
ConstructionSkills report that the 2010 target will be exceeded, although due to the downturn the 2015 target may prove to be too ambitious, and will almost certainly need revising. Revised targets for 2015 have yet to be set.		
Development and promotion of sector-specific Skills Pledge.	Proskills	August 2008
Completed. The Skills Pledge is now in place and is being promoted.		
Development of Action Plan for driving a training culture in the building products sector.	Proskills	August 2008
Completed. The work has been taken forward alongside the Skills Pledge work as above.		
Promotion of the value of CPD, and facilitating access to suitable developmental training on sustainability aspects.	BIS	2008 and continuing
Completed. All relevant professional institutions have been engaged and have arrangements in place covering how sustainability should be covered through CPD[43]. Some have programmes/ materials available through their business delivery arms. There will continue to be developments in this area.		

43 http://www.cpduk.co.uk/

Target	Delivery Body	Timescale
Progress		
Influencing the development of the Construction Qualifications Strategy (CQS). The CQS Action Plan includes: Strategy Strand 20: Identify and implement strategies to support cross cutting themes important to the development of a sustainable, inclusive construction industry.	ConstructionSkills	2008 and continuing
Arrangements are in place, led by the Sector Skills Councils to influence the qualifications regime on an ongoing basis. The target is considered to be achieved		
Fully trained, qualified and competent workforce on all projects.	Strategic Forum	2010
On projects involving major contractors, level of carded workforce is high at 90%. Allowing for turnover, a true 100% target may not be achievable. The UK Contractors Group (UKCG) has introduced a target specifically to improve supervisor competence.		
Reduce the incidence rate of fatal and major injury accidents by 10% year on year from 2000 levels.	Strategic Forum	2010
There were 53 (provisional) construction fatalities during the period 08/09, down from 72 (final, 07/08). The rest of the statistics for 2008/09 (major and over 3 day injuries and ill-health) are not released until October 2009.		
Reduce the incidence rate of cases of work-related ill health by 20% from 2000 levels.	Strategic Forum	2010
Figures are available annually (autumn). Unable to provide detailed progress report at this stage.		
50% increase in projects offering a route to Occupational Health support from 2008.	Strategic Forum	2012
Figures are available annually (autumn). Unable to provide detailed progress report at this stage.		
10% year on year reduction in the incidence rate of fatal and major injuries from 2010 levels.	Strategic Forum	2012
Not in scope at the moment considering timescales.		
30% increase from 2007 level of micro-SMEs (Small and Medium Sized Enterprises) and SMEs taking up Health & Safety training and education at an organisational level.	Strategic Forum	2012
Not quantified. Actions are taking place through the Construction Skills Certificate Scheme (CSCS)[44] but formal monitoring has yet to be organised.		

44 http://tinyurl.com/me55hs

7 Better Regulation

OVERARCHING TARGET

To enhance the industry's capacity to innovate and increase the sustainability of both the construction process and its resultant assets.

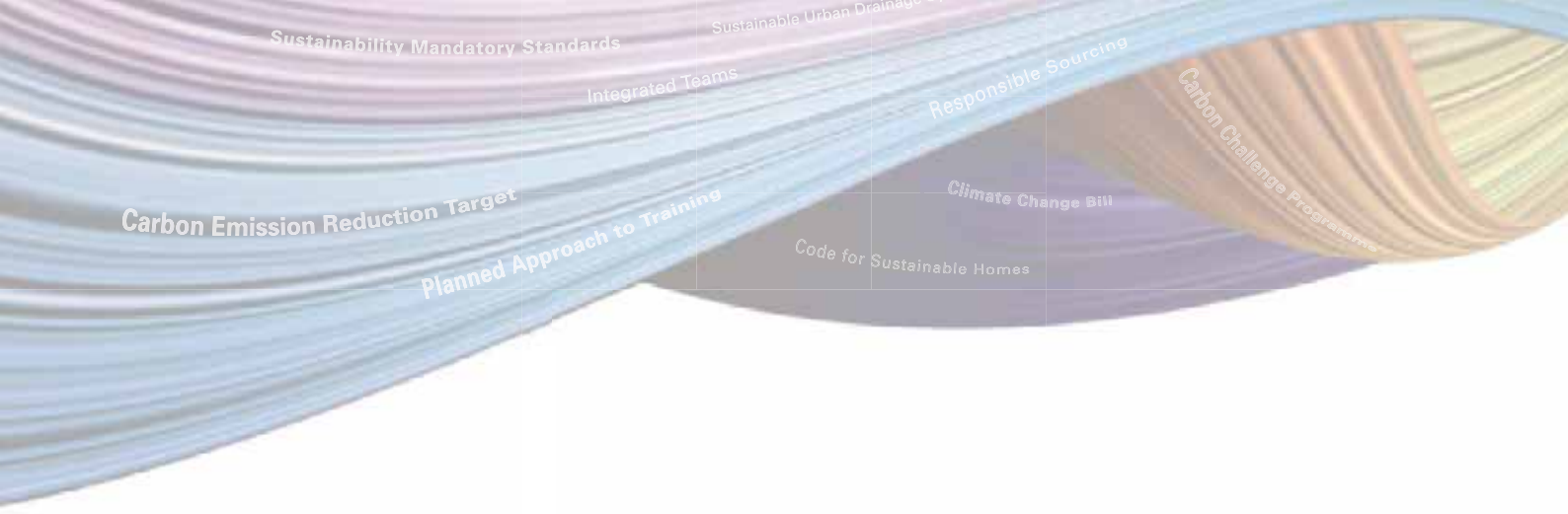
Progress

The Government is on track to meet its 25% administrative burden reduction target (or approximately £3.4bn net annual savings) by 2010. In December 2008 Government reported its progress to date – delivery of £1.9bn of net annual savings.

Looking forward, the Government will adopt new simplification targets for 2010-2015 which will address all regulatory costs on business.

From this summer, the Government will publish a forward regulatory programme. Business will be able to plan better as the programme will include existing and possible future regulatory proposals.

The Government will also set up a new external Regulatory Policy Committee whose role will be to advise Government on whether it is doing all it can to accurately assess the costs and benefits of regulation. Building on the work of Philip Hampton, this body will also advise Government on whether regulators are appropriately risk based in their work; however, it will not have the power to require changes in the behaviour of independent regulators.



The Government also published on 1 September 2009 the *Future of Building Control: Implementation Plan*[45]. The Plan will include details of the first Periodic Review – the Government's plans to limit changes to the Building Regulations to pre-published points every three years. The key aim is to improve the efficiency of the building control system in order to raise compliance with the regulations while also helping to reduce the burden on industry.

45 http://tinyurl.com/m7ay7c

8 Climate Change Mitigation

OVERARCHING TARGET

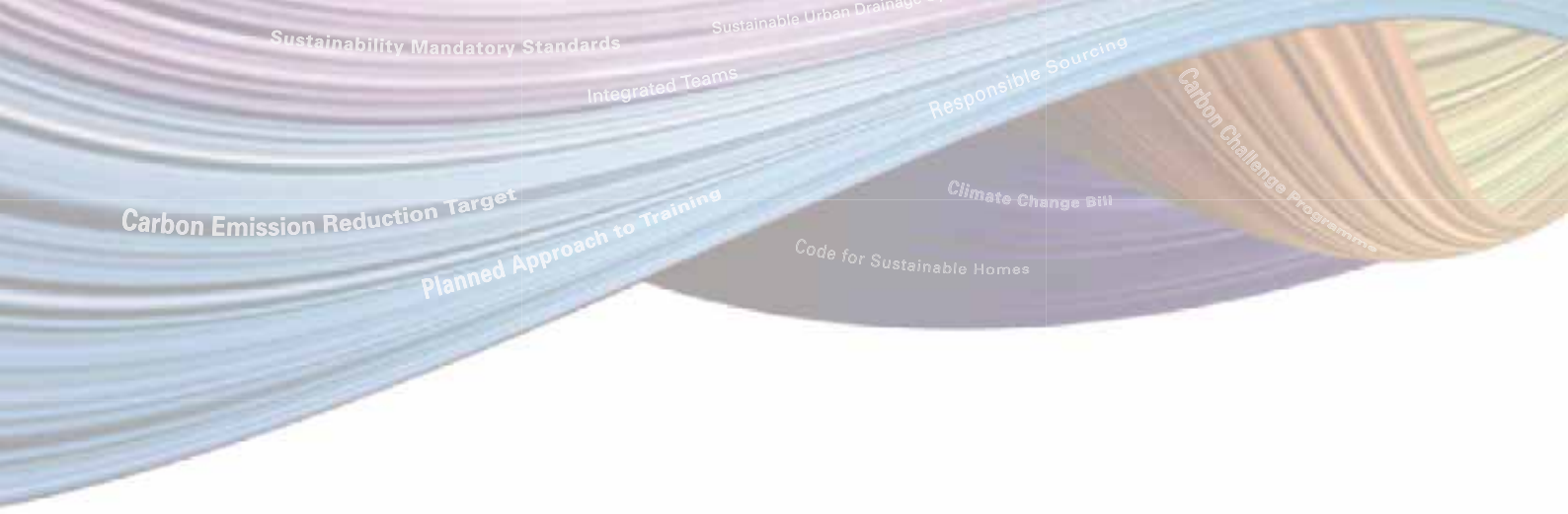
Reducing total UK greenhouse gas emissions by at least 80% on 1990 levels by 2050 and by at least 34% by 2020. As part of the UK Low Carbon Transition Plan to meet these targets, Government has already set out its policy that new homes will be zero carbon from 2016, and an ambition that new schools, public sector non-domestic buildings and other non-domestic buildings will be zero carbon from 2016, 2018 and 2019 respectively.

Progress

The target contained in the 2008 Strategy has been revised upwards to reflect the Climate Change Act.

The 2008 Climate Change Act made the UK the first country in the world to set legally binding targets to reduce its greenhouse gas emissions, committing the UK to cut its emissions by 34% by 2020 and 80% by 2050 on 1990 levels. The Government has now launched its UK Low Carbon Transition Plan which sets out its long term strategy to cut radically the nation's carbon emissions by 2020 and spells out the policies and proposals that will allow us to meet our first three carbon budgets[46], including improvements to the existing building stock. These are legal limits on how much the UK can emit. The Transition Plan explains how the UK will cut emissions 18% below 2008 levels (and over one third below 1990 levels) and go further if other countries agree to take action. A longer term roadmap for the transition to a low carbon UK for the period 2020 to 2050 will be produced by next spring (2010), building a platform for a smart grid, and setting out the Government's assessment of how to ensure energy security.

46 http://www.theccc.org.uk/carbon-budgets



An Energy Performance Certificate (EPC)[47] is now required on the construction, sale or rent of both domestic and non-domestic buildings. The Energy Saving Trust estimates that the average household could save up to £300 a year by making energy saving improvements.

A Display Energy Certificate (DEC)[48] is also required for buildings over 1000m^2 that are occupied by a public authority or an institution providing a public service. A DEC is accompanied by an Advisory Report that lists cost effective measures to improve the energy rating of the building.

The Government has set out an ambitious timetable for the progressive tightening of Building Regulations (specifically Part L) in 2010 and 2013, with the aim of achieving zero carbon new homes from 2016. Towards this end the Zero Carbon Hub[49] has been created to provide practical support to industry in the transition to low and zero carbon housing development.

There are also a number of initiatives, outlined within the Innovation Chapter, which encompass the drive for the development of technologies which will aid the shift to a low carbon construction sector as put forward in the Low Carbon Industrial Strategy.

47 http://tinyurl.com/kva2ee

48 http://tinyurl.com/5wrjq9

49 http://www.zerocarbonhub.org/

Future Work

The Carbon Reduction Commitment (CRC), beginning in 2010, will apply mandatory emissions trading to cut carbon emissions from large commercial and public sector organisations (including supermarkets, hotel chains, all Government departments, large Local Authorities) by at least 1.1 million tonnes of carbon (MtC) per year by 2020. This Commitment will affect the construction sector directly (by targeting emissions from construction companies whose emissions are large enough to be included in the CRC) and indirectly (by influencing the demand for lower carbon buildings by CRC participants). The Government response to the consultation on the CRC Regulations will be published in autumn 2009.

The Government's Heat and Energy Saving Strategy is also due to be published later in 2009, following a consultation which closed in May.

Options for a public-private sector procurement partnership are currently being explored. The model involves bringing organisations with large real estate portfolios together in a consortium, to facilitate comparison of members' existing refurbishment plans to identify cross-over in required refurbishment materials (glazing, lighting etc). Research would be undertaken to identify the most energy efficient standard of this material/ technology that industry could achieve within the specified time frame and budget. Members then coordinate bulk orders, gaining the best products at preferential rates.

Target	Delivery Body	Timescale
Progress		
All new homes to be zero carbon from 2016, with Building Regulations locking in improvements in 2010 and 2013.	CLG	2016
On target. Consultation on 2010 proposals for changes to Part L (Conservation of Fuel and Power) launched on 18 June 2009. Written Ministerial Statement announcing further details on the definition of zero carbon homes issued 16 July 2009. The Code for Sustainable Homes has now been operation for two years; homes are now being completed even to the Code Level 6 standard which incorporates Zero Carbon.		
Consultation on programme and timetable for achieving zero carbon non-domestic buildings by 2019.	CLG	2008
Call for evidence launched in December 2008. Consultation on the detail of the 2019 ambition is due later in 2009.		
Establish a task force to establish whether new school buildings could be zero carbon from 2016.	DCSF	2008
The task force released its interim report in March 2009[50].		
The Carbon Reduction Commitment will apply mandatory emissions trading to cut carbon emissions from large commercial and public sector organisations by 1.1 million tonnes of Carbon (MtC) per year by 2020.	DECC[51]	2010
Consultation on the CRC Regulations was launched on 12 March 2009. The consultation closed on 4 June 2009. The Government response will be published in the autumn.		
Departments to increase their energy efficiency per square metre by 15% by 2010 and 30% by 2020.	SDC[52] (for monitoring) – OGC for implementation	2010
Government as a whole improved the energy efficiency of its office estate by 7.2% in 2007-08 against the baseline. This target is currently under review as part of the review of the Sustainable Operations on the Government Estate (SOGE) targets.		
Reduce carbon emissions on the central Government office estate by 12.5% by 2010/11 and 30% by 2020 relative to 1999/2000 levels.	SDC (for monitoring) – OGC for implementation	2010 / 2011
Government as a whole made reduction of 6.3% in carbon dioxide emissions against the baseline. SDC rated this performance as Amber – indicating further work is required. The Delivery Plan Update published in December by the CESP shows that sufficient plans exist to ensure Government is on track to meet the 2010-11 target. This target is currently under review as part of the review of the Sustainable Operations on the Government Estate (SOGE) targets.		

50 http://tinyurl.com/mq6npl

51 Department of Energy and Climate Change

52 Sustainable Development Commission

Target	Delivery Body	Timescale
Progress		
Central Government's office estate to be carbon neutral by 2012.	SDC (for monitoring) – OGC for implementation	2012
No definition of Carbon Neutrality yet established. DECC is currently (2009) consulting on a definition of Carbon Neutrality. Following this consultation, Government will consider the implications for the carbon neutrality target.		
15% reduction in carbon emissions from construction processes and associated transport compared to 2008 levels.	Strategic Forum – Sustainable Construction Task Group	2012
Funding to provide research support for the SFfC Carbon Subgroup has now been identified from the Carbon Trust and the details are currently being agreed. The project will examine the variety of data sets that measure carbon emissions, and based on these will develop a methodology for measurement from which it will be possible to declare a 2008 baseline.		

9 Climate Change Adaptation

OVERARCHING TARGET

To develop a robust approach to adaptation to climate change, shared across Government. (Comprehensive Spending Review 2007, Public Service Agreement (PSA 27: Tackling Climate Change)[53].

Progress

The Government has now published its Adaptation Policy Framework[54] which sets out the Government's agenda through the Adapting to Climate Change Programme[55]. The programme brings together the work already being led by Government and the wider public sector on adapting to climate change. It will co-ordinate and drive forward the development of the Government's work on adaptation in the future.

53 http://tinyurl.com/kvsa7r

54 http://tinyurl.com/5alu9f

55 http://tinyurl.com/lec9pa

The UK Climate Impacts Programme[56] has recently published its scenarios and is currently running a series of national sector-specific events to raise awareness and develop understanding of future climate impacts. Events for the engineering and construction industry took place in July 2009 and further events are planned including one for the housing sector.

Future Work

Defra has a cross-Government programme of activity on climate change adaptation and infrastructure; however there are a number of areas that are important more generally to buildings and the built environment in relation to construction. These include:

- The importance of green infrastructure to climate change adaptation, in particular in helping to counter the effects of heat and the urban heat island effect and the impacts of flooding in the urban environment.
- Building adaptation into key codes and regulations such as the Building Regulations and the Code for Sustainable Homes.
- Within the context of delivering the Government's Strategy for Trees, Woods and Forests[57], the Forestry Commission will continue to develop the contribution which trees, woods and forests can make to sustainable housing growth, including climate change adaptation; trees can also have an important role in urban cooling.

Through its construction programme, the Environment Agency will promote the principles of sustainable construction to its suppliers through early contractor involvement, appropriately influencing designs, contract specifications, sharing knowledge and experience and making decisions on the basis of whole life costs.

56 http://ukcp09.defra.gov.uk/

57 http://tinyurl.com/lzq65f

Target	Delivery Body	Timescale
Progress		
Adaptation Policy Framework: National Policy Framework.	Defra	2008
Completed. "Adapting to Climate Change in England: a Framework for Action" and accompanying website published in July 2008. An update on action across Government was included in the document "Adapting to Climate Change: UK Climate Projections", published alongside the new UK Climate Projections on 18 June 2009.		
National Programme on Adaptation.	Defra	2011
On track. Phase 1 of the Programme is underway, with a cross-Government Programme of 4 work streams established. The Cross-Whitehall Board to oversee the work of the Programme has met 6 times. Projects include taking forward the adaptation clauses in the Climate Change Act. Phase 2 of the Programme, the national statutory programme, will begin in 2012. The work of the Programme will now be underpinned by the new UK Climate Projections, published on 18 June 2009.		
UK Risk Assessment.	Defra	2011
On track. Scoping Study completed and published for both Risk Assessment & Economic Analysis. Tender process for the full National Climate Change Risk Assessment is underway.		
Regional spatial and Economic strategies to take account of adaptation.	CLG	Ongoing
On track. Planning Act introduced climate change duty in relation to Regional Spatial Strategy (RSS) and local planning authorities. CLG research into RSS policies on renewable energy published 15 July 2009. Further work looking at take-up of climate change policies in Development Plans and in decisions is expected to be completed in the Autumn.		
Reviews of Building Regulations which will include consideration of impacts such as temperature change and flooding.	CLG	Ongoing
On track. We have outlined in *Future of Building Control: Implementation Plan* our proposed timetable for the periodic review of Building Regulations. These further reviews will consider how we need to respond to climate change impacts such as temperature change and flooding to ensure these regulations remain robust and that we have sustainable buildings.		
Review of water fittings Regulations to maximize water efficiency.	Defra	2009
Review underway. Steering group formed, terms of reference agreed. Principle agreement on areas for consultation agreed at second meeting of steering group. Draft consultation document being formulated with view to a consultation later in 2009.		

10 Water

OVERARCHING TARGET

To assist with the Future Water[58] vision to reduce per capita consumption of water in the home through cost effective measures, to an average of 130 litres per person per day by 2030, or possibly even 120 litres per person per day depending on new technological developments and innovation.

Progress

In April 2009, the Government published for consultation a draft Flood and Water Management Bill[59] which includes provisions on the ownership and maintenance of sustainable drainage systems (SUDS). The Government will be publishing its response to that consultation and the pre-legislative scrutiny by the Environment, Food and Rural Affairs (EFRA) Select Committee in the autumn. In Building Britain's Future[60] the Government announced its draft legislative programme for consultation and intends that legislation on floods and water issues should form part of that.

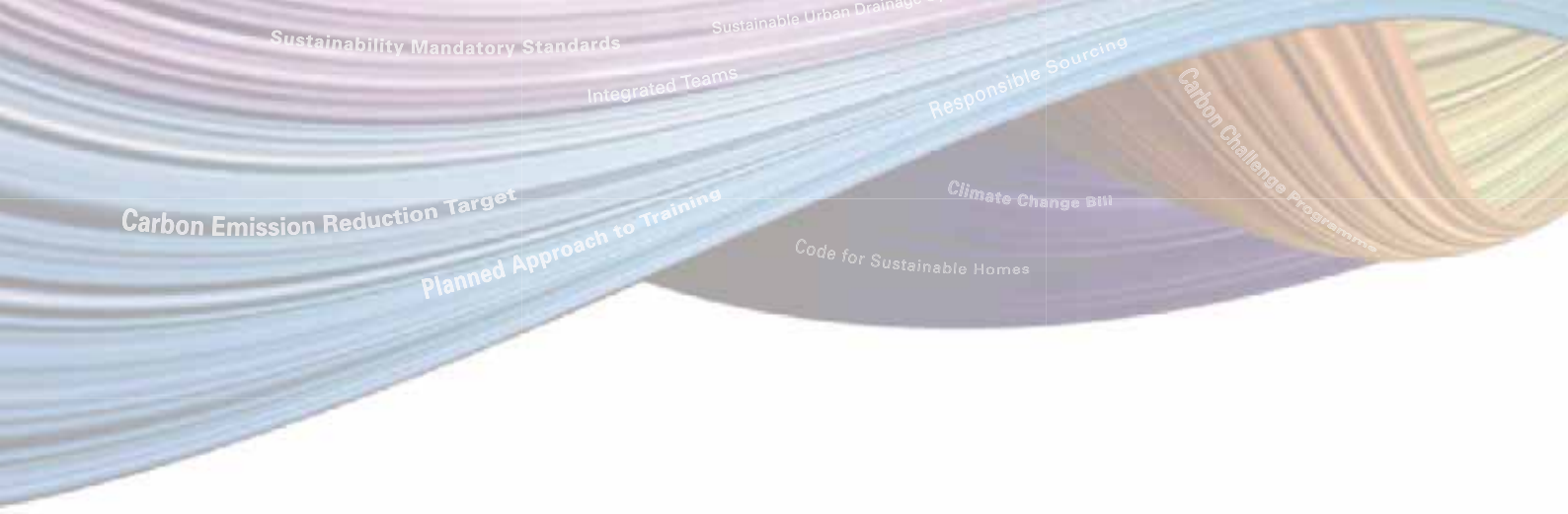
As announced in Future Water an independent review was commissioned to advise on how metering and charging should progress beyond the existing measures. The review has recently published its interim report and will be reporting its complete findings towards the end of 2009.

Government has introduced amendments to the Building Regulations that will introduce for the first time minimum water efficiency standards for new homes. This will require that their estimated water use should be no more than 125 litres per person per day. The changes will come into force on 6 April 2010.

58 http://tinyurl.com/ynk96x

59 http://tinyurl.com/oc86a4

60 http://tinyurl.com/mp9sx2



The Defra-established Water Saving Group ran to November 2008 and considered cost effective measures for reducing per capita consumption to 130 litres per person per day by 2030[61]. The Group was involved in the work on the code of practice for rainwater harvesting systems which the BSI has recently published as BS 8515:2009[62].

The European Commission is in the process of updating the A-G energy label for a number of household appliances. For washing machines and dishwashers it is clear that the Commission intends to ensure that labels for these products indicate the average annual water consumption.

Future Work

The EU Member States agreed in March 2009 to Commission proposals for maximum water consumption limits for washing machines, proportional to their capacity, to be set through an Implementing Measure under the Eco-design for Energy-using Products Framework Directive. The requirements are expected to enter into force in 2010/11 once the measure has been agreed to by the European Parliament.

The action planning process for the WC roadmap (see Materials Chapter) will take place alongside a review of the Water Fittings Regulations.

61 http://tinyurl.com/2g6de2

62 http://tinyurl.com/ldhv27

Target	Delivery Body	Timescale
Progress		
All new homes built with English Partnerships and Housing Corporation support to meet Code for Sustainable Homes Level 3 standards for water efficiency (from April 2008), and (subject to funding) Level 4 standards from 2011 (105 litres per person per day).	CLG	From April 2010
The Code for Sustainable Homes has been operational since April 2007, and it takes approximately two years to plan, design and build any home. At the end of July 2009 there were 540 homes certified as complete. 437 of these were Code Level 3 and 78 were Code Levels 4, 5 and 6. Within the process 3697 homes have design stage certificates and over 290,000 homes have been registered.		
Development of standards for non-potable water use.	Defra	2008.
BSI Code of Practice on rainwater harvesting systems published January 2009. Code of Practice for grey water systems under development.		
Defra will review the Water Supply (Water Fittings) Regulations 1999 in 2008 with a view to setting new performance standards for key fittings.	Defra	2009
Review underway. Steering group formed, terms of reference agreed. Principle agreement on areas for consultation agreed at second meeting of steering group. Draft consultation document being formulated with view to 2009 consultation.		
A reduction in water consumption to an average of 3 cubic metres per person per year for all new office builds or major office refurbishments on the Government Estate.	SDC (for monitoring) – OGC for implementation	Ongoing
Only 6 departments of the 21 reporting under SDiG had carried out new build/major refurbishments in 2007-08. Of these all receive a red rating from SDC, consuming an average of 10.6m3 per person. This target is currently under review as part of the review of the Sustainable Operations on the Government Estate (SOGE) targets.		
Reduce water consumption by 25% on the office and non-office estate by 2020 relative to 2004/5 levels.	SDC (for monitoring) – OGC for implementation	2020
Pan-Government decrease of 17.8% in water consumption – which SDC rated as 'excellent'. Government is on track to meet the 2020 target with the key departments for delivery of this being MoD, Defra and DWP. This target is currently under review as part of the review of the SOGE targets.		

63 http://www.wrcplc.co.uk/

Target	Delivery Body	Timescale
Progress		
Water usage in the manufacturing and construction phase to be reduced by 20% compared to 2008 usage.	Strategic Forum – Sustainable Construction Task Group	2012
Funding enabled SFfC to hire research support from WRc[63] to produce an initial analysis of the disparate data sets on water usage in construction and manufacturing. This information was reviewed at a meeting held in February 2009 and an initial scoping report completed. Further analysis is needed to finalise methodology and determine 2008 baseline.		
Introduction of changes to Building Regulation to improve the water efficiency of new homes, with a whole building performance standard of 125 litres per person per day.	CLG	From 2009
On target. Legislation laid before Parliament on 13 May 2009 and coming into force on 6 April 2010.		

11 Biodiversity

OVERARCHING TARGET

That the conservation and enhancement of biodiversity within and around construction sites is considered throughout all stages of a development.

Progress

The Biodiversity Task Group report was published earlier in the year (2009). It contains sector specific guidance and case studies. Recommendations in the report include the greater incorporation of biodiversity considerations into existing sustainability tools; the standardisation of biodiversity information collection; the reinstatement of the core output indicator for habitat areas and species within the Local Development Framework guidance; the inclusion in PPS9[64] of guidance on measuring, reporting on, and setting targets for Biodiversity; and the implementation of an annual cycle of reporting on biodiversity change within the Strategy for Sustainable Construction.

The UK GBC has launched their biodiversity portal[65] as part of their broader information portal on the website. A joint Defra / BIS Code of Practice for soil use on construction sites is due to be published this autumn (2009). It aims to improve the use and management of soils through all stages of the construction process, including reusing or recycling topsoil where appropriate.

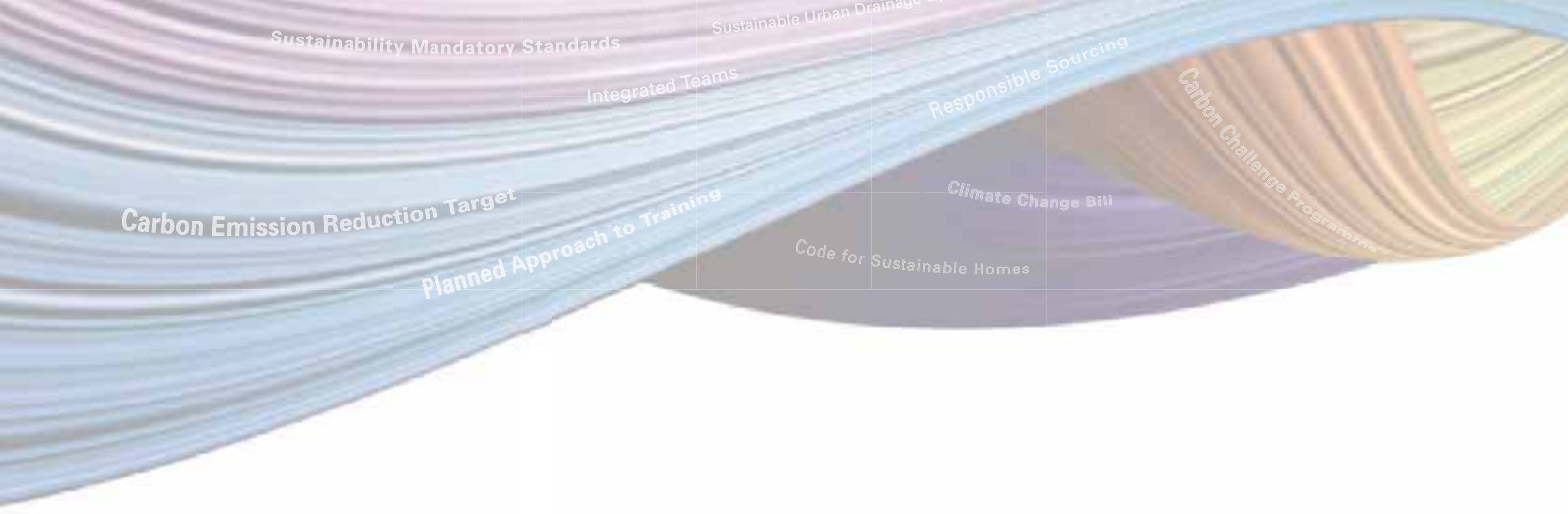
The Biodiversity Toolkit which is being developed by a partnership led by the Association of Local Government Ecologists (ALGE)[66] will soon be made available through the CLG Planning Portal[67]. A development-control tool based on a barn conversion will be piloted in the autumn. Future tools of the toolkit are also being developed and the pilot will be used to identify further priorities.

64 http://tinyurl.com/65nyfz

65 http://tinyurl.com/kp3c7o

66 http://www.alge.org.uk/

67 http://www.planningportal.gov.uk/



CIRIA has recently published a guidance document in support of enhancing biodiversity within construction and built environment entitled 'Building greener: Guidance on the use of green roofs, green walls and complementary features on buildings'[68].

Future Work

Defra is taking a long-term view of land use in England. To this end, Defra co-sponsors, alongside CLG, an independent Foresight Land Use Futures Project.[69] The Foresight project is looking ahead to 2050 and beyond and identifying the policy tools and levers needed to optimise our use and management of land, including urban, peri-urban and rural land. It will report in January 2010.

CIRIA guidance entitled 'Conservation and enhancement of biodiversity within civil engineering projects'[70] will provide guidance on techniques to support the enhancement and conservation of biological diversity within large civil infrastructure projects. Scoping of the guide is currently underway (2009) and there is an opportunity for relevant organisations to get involved in the project.

68 http://www.ciria.com/buildinggreener/

69 http://tinyurl.com/n8cn9s

70 http://tinyurl.com/ntt57u

Target	Delivery Body	Timescale
Progress		
All construction projects over £1m to have biodiversity surveys carried out and necessary actions instigated.	Strategic Forum – Sustainable Construction Task Group	2012
The Strategic Forum for Construction awaited the report from the UKGBC Biodiversity Task Group before deciding its actions. How the findings of the UKGBC work will assist with the measurement of the target will be an activity in the second half of 2009.		
Biodiversity Toolkit for planners and local biodiversity officers.	Defra/CLG/ALGE and Statutory nature conservation agencies	Summer 2008
Behind Schedule. Work continuing on the design of the interactive toolkit and associated software. Plans to pilot the toolkit over the autumn of 2009 with planning practitioners and local planning authorities. A sub-group has been established to manage the pilot. The next meeting of the project steering committee is planned for November to discuss next steps, particularly the pilot as well as progress on, and priorities for, future tools.		
Set up a cross-sectoral workshop and task group to develop a roadmap for the industry to maintain and enhance biodiversity in support of the target.	UK Green Building Council	End of 2008
The Biodiversity Task Group Report with associated recommendations was published on 31 March 2009. The final documents consisted of the report, an executive summary, sector specific guidance and case studies. On the same date the Green Building Council biodiversity portal became live.		

12 Waste

OVERARCHING TARGET

By 2012, a 50% reduction of construction, demolition and excavation (CD&E) waste to landfill compared to 2008.

This 2012 target, agreed by the Strategic Forum for Construction, includes all waste coming from the CD&E industries except aggregates used for backfilling quarries, site restoration or legitimately spread on exempt sites. Further work over the next few years on, for example, life cycle assessments, increased capacity and alternative disposal options, will allow industry to assess better how much more ambitious it could be beyond 2012 and how close we might get to ending the disposal of CD&E waste in landfill in the longer-term.

Progress

The Strategic Forum for Construction's Waste Subgroup of industry and Government waste experts is currently consolidating and analysing disparate datasets to establish a methodology for measuring construction, demolition and excavation waste to landfill. The methodology is expected to be agreed in 2009 and will be applied to the Environment Agency 2008 raw information when available so that a 2008 baseline can be declared.

As work concludes on establishing the measurement methodology and 2008 baseline, the focus of the Waste Subgroup's work will be analysis of additional priority ways to reduce CD&E waste to landfill. This includes identifying

priority waste streams where further action is essential, as well as, for instance, ways of designing out waste in the first place. Such methods could include offsite construction and prefabrication which, owing to efficiency in process, are shown to produce less material waste when compared to traditional site-based activity[71].

Future Work

With the sector partnership work underway by the Environment Agency, one area of work is to ensure that the Duty of Care is achieved for actions related to construction waste. The aim is to create a visible difference between good practice and high risk/ irresponsible practices. Work focussed on small and medium sized businesses is also planned.

Defra will be commissioning a review of the Site Waste Management Plan Regulations[72] to analyse the effect they have had in driving up resource efficiency in the industry and identify whether any changes could strengthen their use and effectiveness further.

WRAP is continuing to promote the Halving Waste to Landfill commitment across the whole supply chain and will be aiming to penetrate more widely and deeply in certain sectors with a particular focus on the design community (both for buildings and infrastructure). Work will also be focused on helping the industry to implement the actions required under the commitment – particularly the embedding of requirements for resource efficiency in project contracts – through direct engagement and by way of a series of work shops, and provision of tools and guidance through in-house seminars and through self-help via WRAP's website[73]. It is anticipated that measurable progress towards the Halving Waste to Landfill target will be evidenced when organisations start reporting progress against their own waste to landfill reduction targets, through the Reporting Portal[74], during 2009-10.

71 http://tinyurl.com/m6obcg

72 http://tinyurl.com/2xsens

73 http://www.wrap.org.uk/construction/index.html

74 http://tinyurl.com/mldh5d

The Plasterboard Voluntary Agreement otherwise known as the Ashdown Agreement[75] has been extended to the relevant subcontractor's body, the Federation of Plastering and Drywall Contractors (FPDC)[76]. However, rather than pursue a separate agreement for plasterboard up the supply chain to main contractors and clients, plasterboard will be included under the Halving Waste to Landfill commitment which numbers of clients and contractors are signing up to.

As additional priority waste streams are identified for action, the Strategic Forum for Construction's Waste Sub-Group will co-ordinate work, building on the success of existing measures.

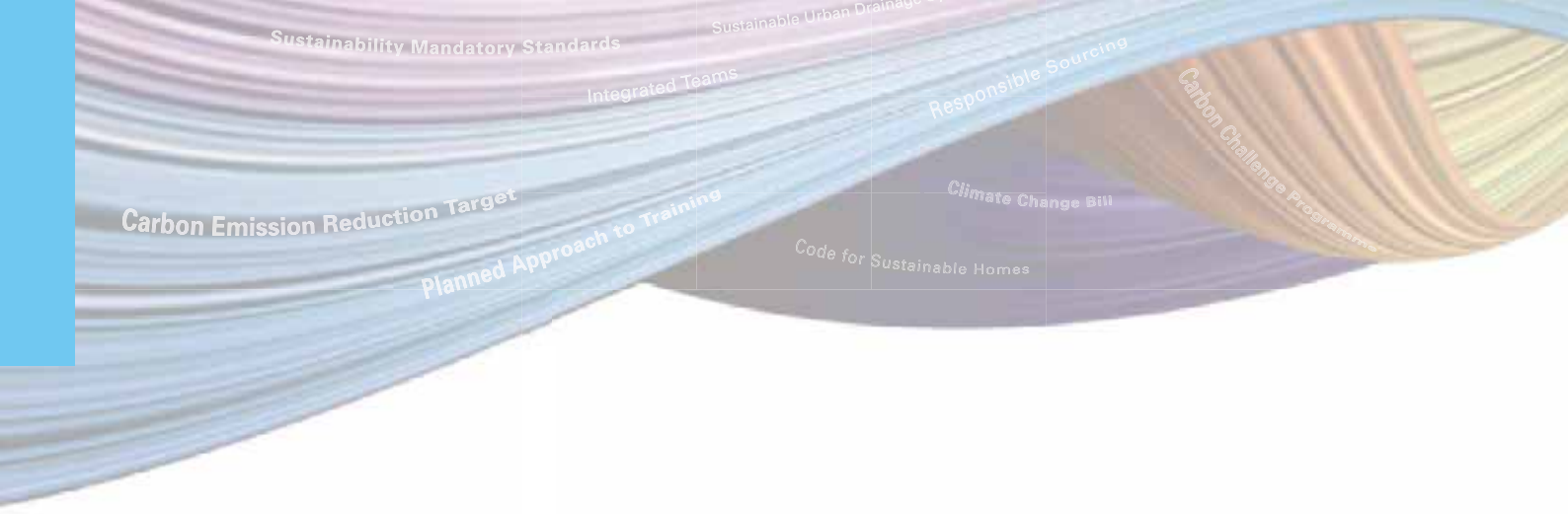
Target	Delivery Body	Timescale
Progress		
Construction Waste Commitment: individual organisations commit to waste to landfill targets at company level.	WRAP	Formal Launch in Sept 2008, then ongoing
Construction Commitments: Halving Waste to Landfill formally launched by WRAP on 16th October 2008. There are now over 150 organisations formally signed up to the agreement to play their part in reducing waste to landfill. Signatories represent all elements of the construction supply chain, including Government departments.		
Develop guidance on waste reduction for small builders.	WRAP / Envirowise in conjunction with NFB	By 2009
Action complete. Guidance document for small builders "Reducing Your Construction Waste" issued as a joint publication by WRAP, Envirowise and the NFB (National Federation of Builders) in February 2009.		
Sector resource efficiency plans prepared and implemented by trade associations.	Construction Products Association	Three begun by end 2008
Scoping studies on waste disposal and resource efficiency for joinery and for flooring completed in early 2009; the work was funded by DEFRA-funded Construction Resource and Waste Programme (CRWP) in response to industry requests. These short studies have enabled the leverage of larger scale funding from WRAP in 2009/10 to advance the work in these two sectors.		
Setting an overall target of diversion of demolition waste from landfill.	National Federation of Demolition Contractors (via SCTG)	By 2009
A target for demolition waste is being developed through discussions between the DEFRA funded Construction Resource and Waste Programme (CRWP), the National Federation of Demolition Contractors (NFDC) and RIBA/CIAT representing architects and designers. This will be based on the NFDC Annual Member returns on waste and trends within the demolition industry. Once the target is set appropriate guidance, tools and support will be developed to help the members reach this target		

75 http://tinyurl.com/l7txke

76 http://www.fpdc.org/

Target	Delivery Body	Timescale
Progress		
Extension of Plasterboard Voluntary Agreement to rest of the supply chain.	BRE (through CRWP), with WRAP	By 2009
The Ashdown Agreement already exists for manufacturers. An agreement for plasterers and drywallers was signed by FPDC in July 2008 and they are now developing a work programme with CRWP. A draft agreement for the recycling and waste industry is under discussion. A Plasterboard Sustainability Partnership between industry and Government has been established[77].		
20% reduction in construction packaging waste.	Construction Products Association	By 2012
A workshop in September 2008 identified priority work streams. Funding from WRAP/CRWP for 2009/10 will enable data held by the Environment Agency and others to be analysed to develop a measurement methodology and declare a 2008 baseline. The funding will also support the development of a packaging waste reduction action plan.		

77 http://www.plasterboardpartnership.org



13 Materials

OVERARCHING TARGET

That the materials used in construction have the least environmental and social impact as is feasible both socially and economically.

Progress

The growing demand for sustainable buildings both in the public sector through initiatives such as the Code for Sustainable Homes and in the private sector through corporate sustainability strategies is driving the materials and product industry to develop innovative products that enhance the sustainability performance of buildings. At the same time, manufacturers are examining the ways in which they can improve energy efficiency, lower carbon emissions and improve resource efficiency within their processes. During the year the Building Research Establishment (BRE) Green Guide to Specification, which assesses the environmental impact of products against 13 parameters, including greenhouse gas potential, became available online, providing easy to use guidance for designers and specifiers when designing a building. The Guide notes that it is the building that is the final product and specifiers must consider how a product contributes to the sustainability performance of the building they are designing. DECC has funded the environmental profiling of renewable construction materials to support their inclusion in the revised Green Guide. The Guide is available online at http://www.thegreenguide.org.uk/

Up to £6m of Government funding has been allocated under the Low Carbon Innovation Fund (LCIF)[78] for the construction of 60 or more low carbon affordable homes using innovative, highly insulating, renewable construction materials. This programme is intended to demonstrate the viability of these materials, act as a spur for the renewable construction materials industry and engage the affordable housing sector in the low carbon agenda. A number of the houses will include monitoring to establish evidence of the performance characteristics and sustainability profile of the renewable building materials used.

Responsible sourcing of products is an increasing demand from clients and considerable attention was given during the year to the development of Standards for Responsible Sourcing of construction products. The BRE Standard (BES 6001) was issued in late 2008 and a BSI Standard for sector certification schemes for construction products (BS 8902) is available for comment during summer 2009.

Defra and industry have worked together to produce the first part of roadmaps on windows and on plasterboard, which assess the sustainability aspects of these products at each phase from cradle to grave. Out of the work of the plasterboard roadmap has emerged the Plasterboard Sustainability Partnership (PSP), with a broad range of stakeholders involved in the production, installation and disposal of plasterboard, as well as the relevant Government departments and regulatory agencies.

Future Work

In response to market demand, continued effort is being made by manufacturers and builders merchants to provide materials and products that will enhance the sustainability performance of buildings and infrastructure projects. Retrofitting of the existing building stock will also be a major driver.

The Defra and industry roadmap work will continue through to the development of sustainability action plans for windows and for plasterboard which is due to be launched at Ecobuild in March 2010.

78 Information on the LCIF funding can be found on p42 of the Low Carbon Industrial Strategy at http://www.berr.gov.uk/files/file52002.pdf

At the EU level, work is continuing on a number of pieces of legislation aimed at improving the sustainability of products or the provision of information about environmental performance. The Energy Using Products Directive and the Energy Labelling Framework Directive are both to be extended to cover 'energy related products', which is planned to include construction products such as windows and thermal insulation. The new Construction Products Regulation (negotiations are ongoing, but likely to be completed in 2010) will also introduce the possibility for products to carry environmental performance information as part of the CE marking.

In terms of other initiatives, the Green Public Procurement programme is developing criteria and guidance for the procurement of more sustainable products, linked to the Ecolabel programme. In the standards world, CEN is developing a suite of standards for the environmental assessment of buildings. The standard for environmental product performance declarations is the first one due for completion, in 2010.

Target	Delivery Body	Timescale
Progress		
Pilot product roadmaps to assess impacts of products across the full product lifecycle, to identify and prioritise any particular problems and then develop the most effective solutions for improving sustainability.	Defra	Initial mapping exercises – completed summer 2008; agreement on next steps – second half of 2008
The evidence study for WCs[79] has now been published and the evidence studies for windows[80] and plasterboard[81] are due to be published later in the month (September 2009). These reports look at each stage of the product lifecycle from the extraction of raw materials; production; retail and distribution; use and maintenance; to end of life. For each of these stages in the lifecycle the reports summarise: • The environmental impacts • The current activities and policies that may reduce these impacts • Possible gaps and potential future work for concerted action		

79 http://tinyurl.com/mdgoe2

80 http://tinyurl.com/myxjop

81 http://tinyurl.com/lj3754

Target	Delivery Body	Timescale
Progress		
Finalising Framework Standards to facilitate the development of sector Responsible Sourcing schemes.	Construction Products Association	2008 / 2009
A BRE framework standard (BES 6001) on responsible sourcing was issued in late 2008 and is being taken up by a number of sectors and companies. A BSI Committee is working on a framework standard (BS 8902) for developing sector schemes on responsible sourcing of construction products; a draft is out for consultation in summer 2009 and the standard is expected to be issued early 2010.		
25% of products used in construction projects to be from schemes recognized for responsible sourcing.	Strategic Forum – Sustainable Construction Task Group	2012
Now that responsible sourcing standards for construction products are becoming available, a scoping study initiated in summer 2009 will consider how this target can be measured.		
To develop means of improving access for designers to product Life Cycle Inventory information.	Construction Products Association	2008 – 2010
Work programme initiated at a workshop in March 2008. BRE Green Guide now online; the British Board of Agrément is now licensed by BRE for environmental profiling. Mixing desks for manufacturers and designers are awaiting funding. The mechanics of cost, skill and data ownership is being discussed between industry and BRE.		

14 Embedding

The Strategic Forum for Construction (SFfC) launched the Construction Commitments in June 2008. They have been endorsed by organisations from across all sectors of the industry and all the main government spending departments. The Construction Commitments have since been further supported by the launch of the Clients' Commitments in November 2008 by the Construction Clients' Group (CCG), and the addition of their 32 members has taken the total number of signatories for the 2012 Construction Commitments, the Construction Commitments and the Clients' Commitments through the 500 milestone. An integral part of the Client Commitments is to encourage their supply chain partners to also sign up to the Construction Commitments. It is planned that project performance will be measured and a diagnostic tool will be introduced to assess behaviour in accordance with the Commitments principles. As a next step the SFfC has launched a campaign to encourage the rest of the industry to follow suit. All the SFfC members are encouraging all their company members to sign up and aim to get the message to the widest possible industry audience.

The Construction Industry Council (CIC) has taken the view that in relation to sustainability the issue of carbon is the main priority for the built environment professions. CIC has undertaken an audit of activity among its members and established a network of task groups in specific areas (Design, Skills, Housing, Decision Tools and Operations) to bring together the initiatives of member bodies and pool information on this subject. The first results of this work are already evident. The report "Carbon Criticality – Audit of Activity of Members" has been published earlier this year and the first major report from the Institute of Civil Engineers on Low Carbon Infrastructure will be produced towards the end of 2009.

The Construction Products Association has embedded sustainability thinking within its organisational objectives

and is encouraging the industry to develop products and processes that contribute to a more sustainable built environment. The Association convenes numerous working groups including a Sustainable Construction Group and a Waste Working Group, as well as workshops and work programmes with its members and others to take forward necessary actions. The Association is especially involved in promoting practical approaches to meeting the low carbon targets for buildings; at developing the standards for responsible souring as well as being involved in a variety of programmes focused on improving resource efficiency and reducing waste. Many of the 43 trade associations and companies that belong to the Association have developed their own sustainability strategies and activities.

The UK Green Building Council (UK-GBC) is continuing to work with members and other stakeholders to create a "Roadmap to Sustainability", a shared vision of a sustainable built environment that provides a path for the industry, its clients and policy makers to follow.

Other organisations including Constructing Excellence, CIRIA and the Construction Industry Environmental Forum (CIEF) have been working with Government to promote the Strategy and its key sustainability messages throughout the construction industry and the built environment sector. Their national networks have promoted the key messages of the Strategy through events, newsletters and websites. Over the coming year, Constructing Excellence, CIRIA and the CIEF will continue to disseminate the aims and principles of the Strategy to members and the broader industry.

The Department of Health recognises that global climate change is a serious environmental threat and therefore expects the design and build of healthcare projects should take into account adaptation and mitigation principles. This approach will be embedded in the new Procure21+ capital procurement framework for new buildings to contribute proactively to the development of sustainable healthcare schemes for the future[82].

The Regional Development Agencies (RDAs) are continuing to support the Strategy through strategic alignment and working in partnership with the rest of the public sector while understanding the needs of business. There is a more extensive report on RDA activities at Annex 1.

82 http://tinyurl.com/mstyoj

The construction work on-site at the Olympic Park is an excellent example of how sustainability is embedded in practice and it is for that reason that this report contains a case study report at Annex 2.

Reporting and Monitoring

This report fulfils a commitment made in the original Strategy to report on progress in 2009. The intention is to publish another report on progress in 2011. Targets, actions and deliverables will then be reassessed and refreshed where needed.

The Strategic Forum for Construction is monitoring industry's progress in regard to the actions and deliverables contained in the Strategy. BIS will continue to undertake a similar function for actions and deliverables relating to the public sector.

The Centre of Expertise in Sustainable Procurement (CESP) was established in 2008 along with a Chief Sustainability Officer to provide leadership focusing on environmental sustainability across Government. It has set itself the goal of supporting the Government objective of becoming one of the EU leaders in sustainable procurement by the end of 2009; and of achieving ambitious forward targets for sustainable operations on the Government estate.

CESP now leads on Government department data collection and monitoring, passing this data to the Sustainable Development Commission (SDC – the Government's independent watchdog). The SDC will continue to publish reports on progress of central Government operations against the targets of the Sustainable Operations on the Government Estate (SOGE) which CESP acts upon.

The Strategy for Sustainable Construction is overseen by a Delivery Board comprising senior members of industry, Government departments, and the Sustainable Development Commission. The delivery of the Construction Commitments which form part of this Strategy are also separately overseen by the Strategic Forum for Construction.

The accountability for the targets, actions and deliverables contained in the Strategy for Sustainable Construction, rests with the organisations listed against each of those activities.

15
Contact Details

To order a free hard copy of the Strategy for Sustainable Construction please ring 0845 045 0010, or contact the BIS publications team at publications@bis.gsi.gov.uk quoting document reference URN 08/973.

For copies of this Progress Report use the quoted URN number on the back cover of the document.

For further information or questions please contact:

Department for Business Innovation and Skills
Construction Sector Unit
1 Victoria Street
London SW1H 0ET

E-mail: john.newman@bis.gsi.gov.uk

Phone: 020 7215 0994

ANNEX 1

Work of the Regional Development Agencies in promoting sustainable construction

Commitments by the Regional Development Agencies (RDAs) within the 2008 Strategy for Sustainable Construction.

The RDAs agreed to:

- embed the Office of Government Commerce (OGC) Common Minimum Standards[83] in direct construction works – this includes the achievement of an "excellent" BREEAM or equivalent assessment on all new build projects and "very good" on all refurbishment projects;
- ensure that an appropriate environmental assessment process such as BREEAM or CEEQUAL[84] appropriate to the size, nature and impact of the project is carried out on all built environment projects that receive their financial support;
- ensure that all construction projects are carried out in accordance with the best practice principles set out in the OGC Achieving Excellence in Construction initiative[85];
- ensure that where investment relates to the development of housing they will require the same levels of the Code for Sustainable Homes and other housing standards to be met as are required by the Homes and Communities Agency;

83 http://tinyurl.com/3kou3w

84 CEEQUAL is the assessment and awards scheme for improving sustainability in civil engineering and public realm projects: http://www.ceequal.co.uk/

85 http://tinyurl.com/4thee2

- actively collaborate with the Technology Strategy Board in the development and deployment of the Innovation Platform for Low Impact Buildings;
- ensure that the business support services offered integrate appropriate diagnostic tools to help SMEs deal with resource efficiency and waste reduction in line with the principles set out in the Business Support Simplification Initiative and;
- sign up to the 2012 Construction Commitments set out by the Strategic Forum for Construction.

The Standards

The principle underpinning the RDAs' use of environmental assessment standards is that they are applied, as appropriate, to all direct physical development works carried out by the RDAs as well as to any physical development works that are supported by funds or grants from the RDAs. The standards are seen as minimum unless the site constraints or project objectives mean that this requirement conflicts with the obligation to achieve value for money. Individual RDAs are free to specify higher standards than these.

- Non- residential Developments will require the use of an appropriate overarching environmental assessment – such as BREEAM or CEEQUAL – to achieve an 'Excellent' rating or equivalent for new build projects or a 'Very Good' rating or equivalent for refurbishments of existing buildings;
- Residential Developments will require the use of the Code for Sustainable Homes assessment method – Developments will need to achieve at least a Code for Sustainable Homes (CfSH) Level 3.

All RDAs have embedded these standards in the projects in which they invest. Many RDAs have developed supportive guidance for partners and applicants to help them understand and apply these standards.

At least six Design Review Panels are supported across England by the RDAs to support significant projects in their regions. The role of these Design Review Panels is not specifically linked to the sustainability agenda, but it is inevitably the case that good design is sustainable design.

The following are a selection of projects which showcase the work of the RDAs in maintaining these standards:

Yorkshire

Yorkshire Forward is contributing over £6m to a £15m refurbishment of Sheffield's Crucible Theatre as part of the ongoing renaissance of the city centre. The project will modernise the theatre and expand its range of cultural and educational activities for schools, businesses and young people. Works will be completed by November 2010. The project is expected to be the first theatre in the country to achieve a high BREEAM rating for minimizing environmental impact.

South West RDA

Brunel Business Park[86] is part of the St Austell Village sustainable mixed use development which includes 150 new homes. The £4.78 million project was developed directly by the RDA and was jointly funded by the RDA and the Objective One Partnership for Cornwall and the Isles of Scilly. The development has a number of sustainable features including an earth energy heating system, rainwater harvesting and passive ventilation. It was awarded an 'excellent' BREEAM rating for its environmental design and management.

Advantage West Midlands

G.Park Blue Planet at Chatterley Valley[87], is the first development in the world to be awarded the new BREEAM "Outstanding" rating (design stage). This is the highest sustainable accolade available in property development. It houses the UK's first truly carbon positive logistics development, with its own biomass micro power station and 100% of the energy and heat supplied is by renewable sources. This has helped it exceed the UK Government's Climate Change Act targets for both 2020 and 2050 in 2009. Through its implemented measures it is estimated to create a total energy and water cost in use saving of up to £300,000 per annum.

Innovation

RDAs are working actively with the Technology Strategy Board (TSB) on the Low Impact Buildings Programme and the Board's wider innovation support programme. Joint RDA/TSB workshops have helped to shape the calls put out

86 http://tinyurl.com/nzhoho

87 http://www.gparkblueplanet.com/

and with the Knowledge Transfer Network for the Modern Built Environment. RDAs are helping to make sure that regional businesses and universities are involved in the programme. In addition, construction and built environment firms are accessing other RDA innovation and development support products – for example, the Grant for Research and Development[88].

Since 2005 the TSB has supported over 300 construction and built environment related projects with over £38M investment. In addition, over 100 Knowledge Transfer Partnership projects have taken place in the sector.

Examples of RDA construction innovation include:

Emda – iHub

The iHub[89] building in Daventry will form the operational headquarters for the East Midlands Sustainable Construction Innovation Network (iNet). The £8 million project, which is to be a leading facility in carbon neutral business, research and innovation is planned to become the regional hub to stimulate innovation in the sector. It will be used for research and by businesses at the cutting edge of the construction industry and will strengthen the construction sector through promoting and enabling innovative technologies and practices.

It will feature 60 innovation units for businesses, a conference room for 200 people, exhibition spaces, meeting rooms and additional networking space. It will also be a leading example of energy-efficiency and sustainable building in its own right.

Subject to planning approval, the iHub is targeted for completion by November 2010. It is anticipated the iHub initiative will create around 200 jobs.

Advantage West Midlands (AWM) – Building Technologies

Building Technologies[90] companies in the West Midlands turnover over £6 billion and directly contribute over 260,000 jobs to the region's economy. AWM supports the Building Technologies industry through its cluster programme. The cluster vision is to position the West Midlands as an

88 http://tinyurl.com/yqnxqs

89 http://tinyurl.com/kjzee6

90 http://tinyurl.com/nbkqya

international leader in sustainable building materials, sustainable building products and design-led, manufactured building solutions.

The cluster has made strong headway in delivering its strategic objectives: developing markets; stimulating new products and promoting best practice. The key projects within the cluster plan have been developed and are making a focused contribution to the development of the regional industry. The West Midlands Centre for Constructing Excellence (WMCCE) has over 600 businesses actively collaborating in 6 industry-led best practice clubs, to improve the productivity and performance of the regional construction supply chain. The creation of 'Advantage Offsite' has positioned the West Midlands as a leading UK region in off-site manufacturing of buildings, a sector which is growing at over 30% per annum.

The Sustainable Public Buildings Project is delivering £60 million of public sector buildings as exemplars of sustainability. It has provided the links for 92 regional businesses to enter the market for sustainable building technologies. The project has connected the regional supply chain (including architects and building services engineers) to the new £4 million Blackheath Library producing a state-of-the-art sustainable design.

Thames Gateway Institute for Sustainability

The Thames Gateway Institute for Sustainability is a multi-million pound centre of excellence based in the Thames Gateway set to research, demonstrate and share best practice in sustainable living to reduce negative impacts on the environment. It is working in partnership with a large number of organizations including the South East England Development Agency (SEEDA).

Resource Efficiency

All English regions are now offering a business support service: "Improving Your Resource Efficiency" is embedded in the Business Support Simplification suite of tools that all RDAs deliver through Business Link and the nationally available Solutions for Business programme[91].

91 http://tinyurl.com/6dhsqh

ANNEX 2

Case Study: Sustainability Principles Underpinning the Olympic Build.

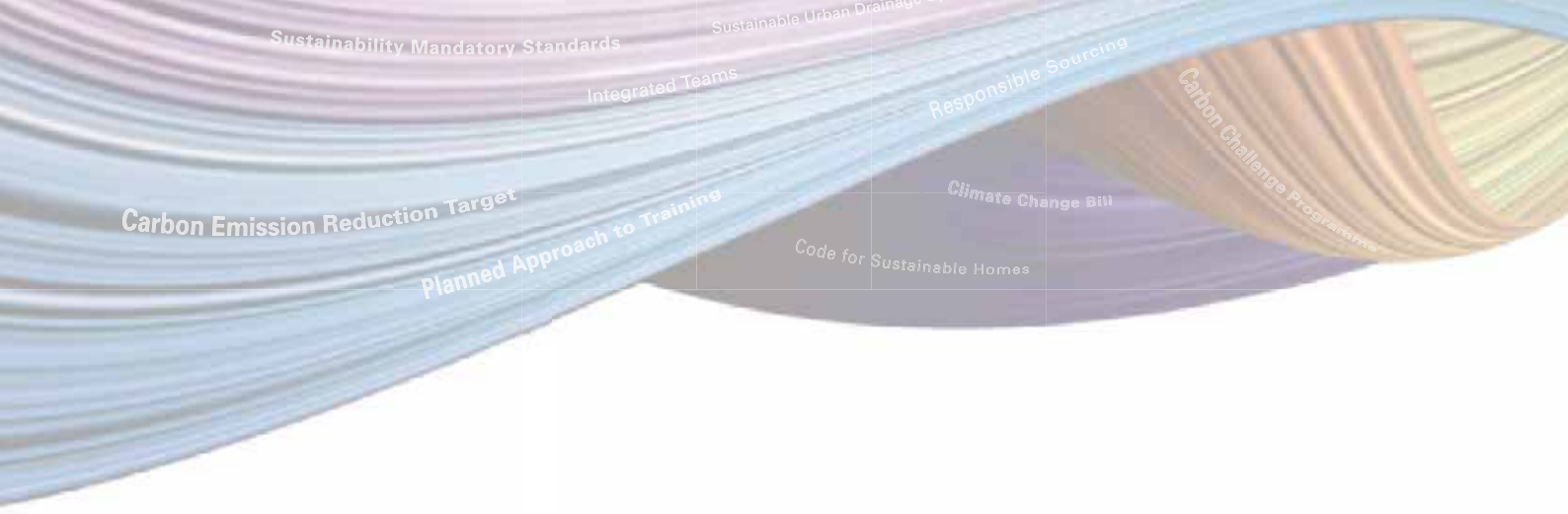
Background

Sustainability was at the heart of London's bid to host the 2012 Olympic and Paralympic Games, and the Government remains committed to ensuring that the Games are as sustainable as possible. In November 2007, the Olympic Board[1] published the London 2012 Sustainability Plan – *Towards a One Planet 2012*[2] – which set out how sustainability is being incorporated throughout the planning and construction, staging and legacy phases of the London 2012 programme.

The Olympic Delivery Authority (ODA) was established to build the venues and infrastructure needed to host the London 2012 Olympic Games and Paralympic Games. The majority of the ODA's construction work is taking place in the Lower Lea Valley, in east London, on a 246 hectare brownfield site.

1 The Minister for the Olympics; the Mayor of London; the chair of the London 2012 Organising Committee of the Olympic and Paralympic Games (LOCOG); and the chair of the British Olympic Association (BOA)

2 http://tinyurl.com/6d3jz7



While it is well known that the construction programme of the London 2012 venues and infrastructure is extremely ambitious, it is less well known that the Olympic Park is being built to the most comprehensive range of sustainability criteria ever adopted by a large scale project in the UK. The ODA has aimed to: go beyond construction industry norms; to redefine best practice in sustainable development; and to demonstrate that the sustainability targets it has set for the project, and the tools and processes established to deliver those targets are achievable and replicable.

The ODA's sustainability commitments and targets are detailed in its Sustainable Development Strategy (SDS)[3]. A significant amount of work by the ODA and its Delivery Partner has gone into ensuring that the commitments and targets are implemented in procurement documentation, design briefs and so on, to ensure their delivery in construction. To support this, a variety of processes and tools have been developed to collect data and monitor the performance of contractors against their requirements.

3 http://tinyurl.com/mm5ca

Highlights of the Olympic Park build project to date include:

- Certification of an ISO14001 Environment and Sustainability Management System.
- Timber Supplier Panel established to provide legal and sustainable timber to contractors on the Olympic Park.
- Over 90 per cent of material arising from demolition stockpiled for reuse or recycling. Reclaimed paving stones and cobblestones have been used in landscaping works.
- Target to transport 50 per cent of materials by weight to site by rail or water is currently being exceeded.
- Improvements to three kilometres of waterways in the Olympic Park completed.
- Velodrome has been designed to be 30 per cent more energy efficient than a standard 2006 Building Regulation Part L compliant building.
- Around 39 per cent recycled materials have been used in piling concrete for the foundations of the Aquatic Centre.
- Surplus gas pipelines have been used for the Stadium's roof support which was designed to accommodate the size of the pipes.
- 4,434 people working on the project, 500 have been placed through the dedicated jobs and skills brokerage.

Velodrome taking shape in August 2009. The Velodrome design is lightweight and achieves a 44 per cent reduction in potable water against industry standards and 36 per cent reduction in energy use against Part L 2006 Building Regulations.

Strategy and target development

The SDS was developed by consulting with stakeholders, reviewing performance of other large-scale projects and considering new and emerging public policy. It is comprehensive in its approach to sustainability, including social, economic and environment areas.

- Carbon
- Water
- Waste
- Materials
- Biodiversity
- Environmental Impacts
- Supporting communities
- Transport and mobility
- Access
- Employment and business
- Health and well-being
- Inclusion

Key to delivering sustainability is to ensure that the SDS is embedded in the Town Planning process. The outline planning application for the Olympic Park included the SDS as a supporting document. As a result the relevant targets from the strategy were included in the planning obligations. Examples of targets set as planning obligations include:

- reduction in carbon emissions for the built environment in 2013 by 50 per cent, against 2006 Building Regulations;
- ensure 90 per cent of materials (by weight) from demolition works are reused or recycled;
- reduction of non-potable water demand by 40 per cent;
- creation of 45ha of new habitat in legacy;
- 50 per cent of materials (by weight) transported to site by sustainable means; and
- BREEAM Excellent rating for permanent buildings in legacy.

Train transporting materials to the Bow East Logistics Centre for use in the construction of the Olympic Park venues.

Implementation

The 12 key sustainability themes in the SDS have been developed into clear programmes of activity and each of the themes has its own set of Key Performance Indicators (KPIs). For example, the six environmental themes of carbon, water, waste, materials, biodiversity, and environmental impacts include 26 KPIs which are applied to each of the 17 Tier 1 contractors. Projects on the Olympic Park range from land remediation, landscaping and tunnelling works to utility, bridge and venue construction. Due to the size and scale of the project, there is a two tier approach to the KPIs.

The targets are applied at programme level (tier 1) and to individual projects (tier 2). For example, the ODA has a programme wide Biodiversity Action Plan (BAP) which includes a requirement to create 45 hectares of species rich habitat. This programme wide target has been cascaded to relevant project teams to allow delivery. In the same way the ODA has adopted a site wide energy programme that encourages energy conservation and delivers infrastructure based solutions. This includes an Energy Centre Combined Cooling and Heating Plant and a two megawatt wind turbine. Individual venues are expected to adopt very high energy conservation standards to minimize the total energy demand.

Sustainability skills

Sustainability is very complex with a wide range of issues. Expertise is required across each of the core thematic areas covered in the SDS. The Sustainable Development team has been set-up to work so members of the team provide a dedicated, solution based support to individual projects whilst also leading on the delivery of the themed programme targets in their specialist area.

Members of the team have lead responsibility for assuring a minimum of one project through design, procurement and construction. Support to a project includes:

- Technical advice and support in identifying best value solutions or ensuring that theme leads from within the team are available to provide specialist support where required.
- Assurance that targets are being achieved and auditing on a regular basis.
- Supporting contractors on meeting their reporting requirements and review performance on a monthly basis.

By adopting this approach, individuals within the team are familiar with all the key environmental issues covered by sustainability and are confident to apply these issues to a complex large scale programme.

Tools and processes

Prior to starting work on the Olympic Park each contractor goes through a detailed six week induction covering a range of work-related and commercial issues. As part of this induction the contractors are given core sustainability objectives and targets that they are expected to meet.

The ODA carries out regular audits and inspections on project assurance. A detailed on-line bespoke reporting mechanism has been developed to ensure each contractor reports against all their environmental KPIs on a monthly basis through a self assessment tool, which is designed to report on the cumulative performance for each theme across all 17 Tier 1 projects.

A number of supporting documents and systems such as the Code of Construction Practice, the Environment and Sustainability Management System and a data collection tool have been developed to provide clear guidance to all contractors working on the project.

In order to ensure that London 2012 meets its sustainability targets, an independent assurance body, Commission for a Sustainable London 2012 (CSL) has been set up to report on London 2012 sustainability to the Olympic Board. CSL has undertaken a number of reviews, including on design, procurement and sustainability reporting, and is scheduled to continue to do so until 2014.

Future work

The targets, systems and processes developed by the ODA have the potential to influence future large and small scale construction projects. They have all been developed with reference to the Strategic Forum for Construction's construction commitments and have been tested with a range of contractors.

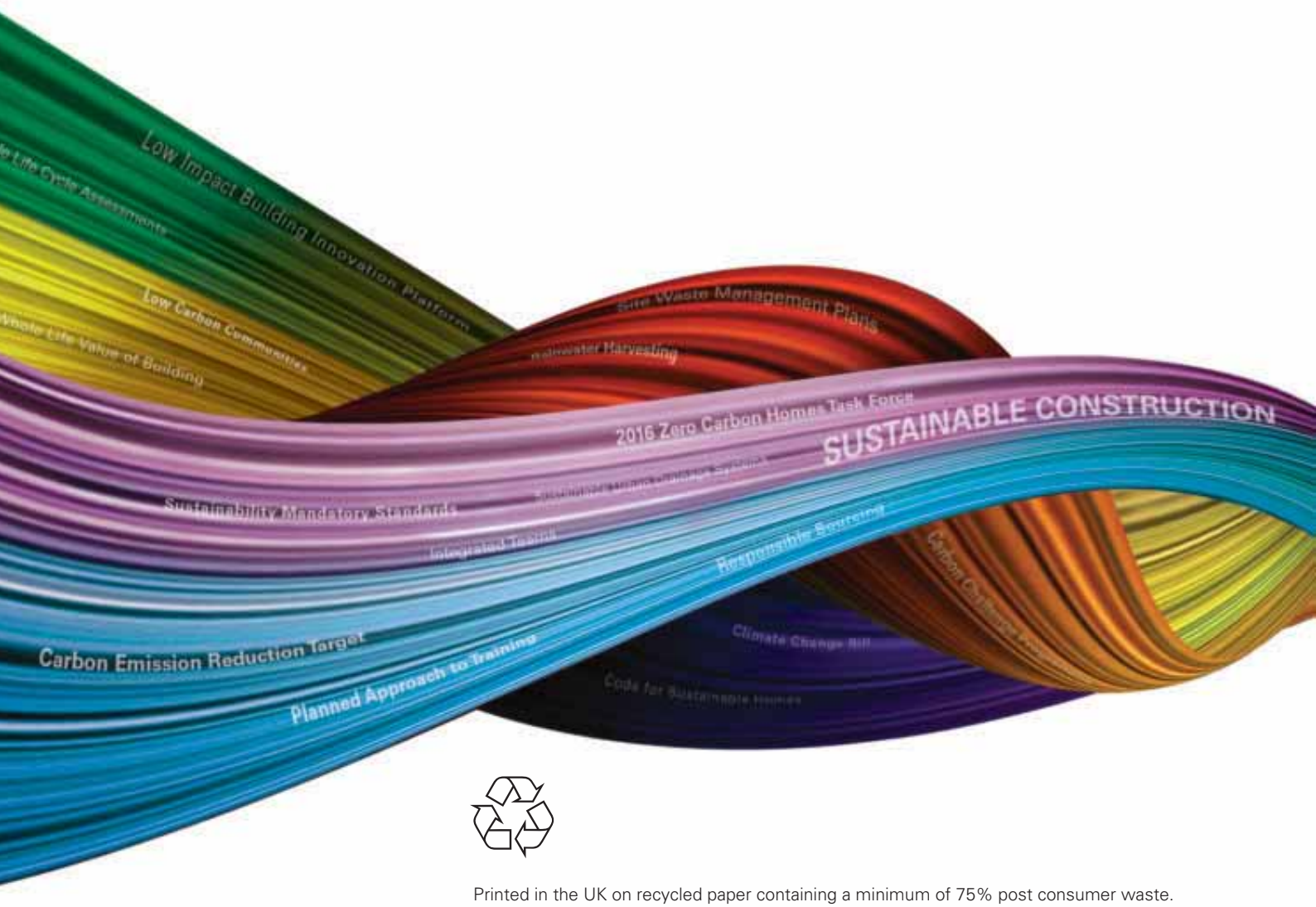
In the long term the ODA intends to publish a series of best practice guides that share some of the key lessons learned from the project. In addition, the ODA, as part of its learning legacy programme, will ensure that the industry is able to access and use the systems, tools and processes that have been developed where appropriate.

It is our ambition to make the Olympic Park a blueprint for sustainable development and to leave a lasting legacy by increasing awareness of the need to live more sustainably.

Key lessons learned to implement sustainability effectively:

1. At the project outset develop a robust sustainability strategy that has support at the highest organisational level and covers the key environmental, social and economic drivers of the project.
2. Develop a set of measurable and deliverable key performance targets that have a clear relationship to the strategy and are meaningful and relevant to the project.
3. Embed sustainability targets in planning commitments, design briefs and procurement documentation.
4. Use procurement as a tool to drive positive sustainability outcomes and work with the supply chain to deliver the best sustainability solutions.
5. Develop robust assurance tools and audit process to monitor progress in meeting the sustainability strategy and KPIs for the design, tender and construction phases of the project. Use self assessment tools where possible and adopt recognised and well tested reporting standards.
6. Be strategic and consider value for money when considering the best way to meet the key sustainability targets. For example, the ODA set a target to reduce carbon emissions by 50 per cent across the programme and the strategy that offered the best value for money has been to invest in a large scale Combined Cooling and Heating Plant and extensive distribution network.
7. Develop a culture in which everyone working on the project understands that sustainability is a core driver. Ensure there is basic compliance but encourage innovation and input from delivery partners.
8. Wherever possible adopt best practice tools, standards and processes and only develop new tools and processes where absolutely necessary.
9. At all times ensure that the strategy, performance criteria, tools and reporting mechanisms are clear and transparent.
10. Maintain a level of flexibility in the strategy so that new standards, technologies and processes can be adopted if and when they are appropriate.

This strategy is helping to deliver ACT ON CO2



Printed in the UK on recycled paper containing a minimum of 75% post consumer waste.
Department for Business, Innovation and Skills. www.bis.gov.uk

First published September 2009.