

CIC EXECUTIVE BOARD: 30 JANUARY 2008

**CIC RESPONSE TO THE DRAFT STRATEGY FOR SUSTAINABLE
CONSTRUCTION**

Introduction

The Construction Industry Council (CIC) is very pleased to support the Strategy for Sustainable Construction and we hope that the Strategy will provide the main framework for the delivery of sustainable buildings within the UK.

The views of the CIC members are broad and varied and we have sought to identify a number of themes or concerns that have been raised by the majority. In summary, the CIC members consider that the Strategy would be strengthened if the following issues are included / expanded within the strategy.

1. The Strategy provides a sensible vision for sustainable construction but it needs to place this vision within the broader UK / European / international context and the framework of other Government activities / programmes.
2. The Strategy would be strengthened by the inclusion of a detailed delivery plan.
3. The Strategy calls for commitments from industry leaders but is not clear on the part that Government will play in the delivery of the stated targets.
4. It is likely that, during the life of the Strategy, innovation within the market will mean that the significance of some stated targets may change. The Strategy should discuss and describe the desired outcomes.
5. Many CIC Members are concerned that the targets will not be met by voluntary agreements and that there is a need for mandatory and regulatory support. It is hoped that the Strategy can be coupled with evolution of existing regulation.
6. The establishment of common definitions of KPIs and the units that should be used. This will aid the collation of data and the monitoring of progress against stated targets.

A more detailed discussion of these points is given below.

The aim of the strategy to create a step change in the sustainability of the construction industry and the development of a committed, skilled and adaptable workforce is wholly supported by the CIC. Above all, the industry requires certainty to allow it to innovate and lead internationally in products and services for sustainable construction. We support the concentration on four cross-cutting ways that the industry and client behaviour need to improve: procurement, integrated teams, design and innovation.

Context of the Strategy

The Strategy excludes consideration of Planning and Civil Engineering Works. Both are considered to be serious omissions. Whilst this may need to continue the Strategy must explain more fully how these issues will be dealt with. The revised, final Strategy should explain the restrictions / parameters within which the Strategy has been written. The Strategy must recognise that the audience is intelligent and informed.

- Planning is of great importance to sustainable construction and its exclusion from the Strategy should not intimate that this subject should not be considered by developers / builders (within the context of sustainability).
- The lack of consideration of Civil Engineering within the Strategy could mean that it does not comply with OGC Guide 11.

The relationship and inter-dependency between the different elements of the construction process (“inter-operability”) must be clear and readily defined. A high level road-map would be very helpful to describe the construction process and the relationship between each element. The roadmap should describe the desired outcomes, the roles / responsibilities of the participants at each stage and the key documents / guidance / tools etc. Suggested KPIs for the monitoring and measurement of each element would also be useful. The industry can only deliver KPIs for each project (or possibly a property portfolio).

The Strategy should acknowledge the EU European Strategic Energy Technology Plan (SET Plan) and other EU strategies.

Within the ‘context’ section for the Strategy we would like to see a brief review of the market and a description of the major sustainability impacts. This will help the industry prioritise action.

Delivery Planning

The Strategy must provide a framework for action and should state how the priority areas (for targets) have been arrived at, what will be expected in the short medium and long term, and the actions being taken by Other Government Departments. Without this type of strategic framework there is a risk that the Implementation Plan will simply be a patchwork quilt of loosely defined commitments that, hopefully, will move the Strategy in the right direction.

- A firm framework will allow the industry to plan and give confidence in the market place. Confidence is essential for long term planning.
- Targets need a roadmap for delivery (i.e. action planning) to ensure that there is change.
- Targets should be strategic in nature and therefore have a time horizon of at least 10 years –anything less and they are simply tactical and have no meaning for industry.

A number of Members have pointed to the Sustainable Development Strategy and Action Plan for Civil Engineering as being a clear, concise Strategy and a good model for the final Strategy for Sustainable Construction (produced by the ICE, ACE, CECA, CIRIA and the Construction Products Association, July 2007).

Consideration should be given to the incentives for change within the construction sector. Whilst there may be business benefits for some of the larger developers or the financial sponsors of many larger developments in the adoption of sustainability principles and codes of practice this is often far from the case at the 'lower' end of the market. The financial benefits for many are unclear but the CIC considers that there is a valuable place for intelligent regulation (see the section on Better Regulation, below).

A strong business case is particularly important in the context of the forthcoming European Directive on Energy policy –20% Energy Efficiency improvement; 20% reduction in GHG; 20% renewables and 10% bio-fuels, all by 2020.

Commitment by Government

Government is said to be directly or indirectly responsible for c. 40% of the new build within the UK yet the strategy seems to expect industry to take all of the measurable actions. The final Strategy should explain:

- What commitments will Government departments make in relation to their own procurement activities?
- What are the roles of OGDs?

Desired Outcomes

A credible strategy must provide a definition / description of the desired outcomes in the short, medium and long term. A clear definition of the desired outcomes will encourage the industry to innovate (and invest in innovation) rather than being constrained by the micro-management of targets. As a minimum the Strategy must provide a firm framework and give confidence to the market.

- We need a better definition of where the major sustainability impacts are currently. Decisions and Strategy must be based on information.
- Strategy and therefore targets should not be that specific that they change due to short term changes in markets.

Better Regulation

There is a strong feeling from many CIC Members that a series of voluntary agreements will not deliver the necessary improvements in performance. Many CIC Members have expressed an interest in the evolution or development of existing regulation, i.e. the emphasis should be on better regulation rather than the creation of new legislation / regulation. The Building Regulations are considered to be a suitable vehicle for this, possibly in conjunction with a more formal adoption of the Code for Sustainable Homes. Good regulation should ensure minimum performance and progressively 'raise the bar' for the industry leaders who want to enhance or maintain their market position.

This approach would mean that the leaders will continue to innovate but that regulation will provide confidence that desired outcomes will be achieved at the lower end of the market.

As a minimum, better regulation should be used to provide a 'level playing field' across the industry.

KPIs and Units

The Strategy would be improved if it set the context for the targets, describing the mechanism for monitoring performance and setting-out a parameter for measurement. What are the criteria for success? We need agreement on the units for the parameters used to develop characterisation of sustainable construction and the Strategy should explain why these choices have been made.

The proposed targets are likely to be difficult to monitor. There needs to be government commitment to gather information which is supported by a description of what is to be done with the information subsequently.

If the industry is to adopt the targets described in the draft Strategy then consideration must be given to the mechanism to gather data and monitor performance. The difficulty and cost of creating an effective mechanism reinforces the argument to amend the Building Regulations and the use of existing systems. It is expected that this discussion will be considered within the Impact Assessment.

- How will performance be benchmarked?
- Promoting post-occupancy evaluation should be adopted.
- Efforts need to be concentrated on the critical environmental issues and CO₂ in particular.

Commitments from the CIC

The CIC is prepared to make the following commitments:

- To be at the forefront of owning, developing and implementing the sustainable construction strategy for the built environment and the construction industry;
- To seek a commitment from members to own, develop and implement the sustainable construction strategy;
- To press for the sustainable construction strategy to underpin all new regulation, codes and best practice guidance, and for all existing regulation, codes and best practice should be tested against the strategy;
- To maximise influence on all key decision-makers and exercise an authoritative voice in promoting and implementing the sustainable construction industry;
- To continue to work towards an integrated and safe industry, which is totally committed to sustainable construction;
- To communicate the sustainable construction strategy and encourage operational activity which underpins it amongst our members and to all stakeholders;
- To raise awareness of career opportunities, training and skills development needs in relation to sustainable construction;
- To ensure that the sustainable construction strategy is enhanced and developed through our ownership of the Design Quality Indicator by requiring

that appropriate performance outcomes for sustainability are enshrined within the DQI methodology and that appropriate data on stakeholder aspirations regarding sustainability is collected and available for analysis;

- To ensure that the sustainable construction strategy is acknowledged and emphasised through the ongoing CIC Corporate Plan, its mission, core values and priorities;
- To ensure that the process of assessing and registering Approved Inspectors is satisfactorily underpinned by appropriate knowledge of the key aspects of the sustainable construction strategy;
- To encourage research, innovation and knowledge exchange in pursuit of sustainable construction;
- To consider the enhancement of common learning outcomes for professional education that adhere to the sustainable construction strategy;
- To consider the development of specific Continuing Professional Development based on the sustainable construction strategy;
- To lobby and encourage all other stakeholders to implement the sustainable construction strategy as the overarching source for the development of specialist professional standards (eg in procurement) and specific product requirements (eg sustainable homes and offices);
- To ensure that the Construction Commitments (hosted by CIC on behalf of the Strategic Forum for Construction) take full account of the sustainable construction strategy;
- To work with PI-UK (China) to export the principles of the sustainable construction strategy in China and elsewhere overseas

Tony Iles on behalf of
Graham Watts
Chief Executive
30.11.07

Draft Strategy for Sustainable Construction: a consultation paper - July 2007
Response by the Construction Industry Council

General

Construction Industry Council submits this document to comment on the Government's proposals for the Strategy for Sustainable Construction, as contained in the consultation document.

Response form for the consultation on the Strategy for Sustainable Construction

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Organisation type (<i>tick one box only</i>)	
<input type="checkbox"/> Approved Inspector <input type="checkbox"/> Architects <input type="checkbox"/> Civil/Structural Engineer <input type="checkbox"/> Commercial Developers <input type="checkbox"/> Consultancy <input type="checkbox"/> House or property developer <input type="checkbox"/> Housing Association (Registered Social Landlords) <input type="checkbox"/> Other non-governmental organisation <input type="checkbox"/> Builder/other contractor (please specify) <input type="checkbox"/> Local authority – Building Control <input type="checkbox"/> Local authority – Environmental health <input type="checkbox"/> Local authority – other (please specify)	<input type="checkbox"/> Manufacturer <input type="checkbox"/> Trade body or association <input type="checkbox"/> Private individual (unaffiliated) <input checked="" type="checkbox"/> Professional body or institution <input type="checkbox"/> Property funder <input type="checkbox"/> Research/academic organization <input type="checkbox"/> Specific interest or lobby group <input type="checkbox"/> Individual in practice, trade or profession <input type="checkbox"/> Journalist/media <input type="checkbox"/> Insurer <input type="checkbox"/> Other (please specify):
Please use an X in answering the following questions	
Is your response confidential? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If “yes” please explain why.	

Consultation Questions

General

Q1 Do you think that the broad coverage of the key themes and sub themes in this draft Strategy is correct? If not, then what themes or sub themes should additionally be covered?

Generally yes, however it would be beneficial to also consider the following themes:

- **Leadership** - The strategy must incorporate a section on leadership to identify key roles and responsibilities of the various organisations involved in delivering the strategy – and industry must be clear how to interact with these organisations.

A recent CIOB survey revealed that despite strong opinions on climate change and a belief that 'green' building is the future of the construction industry, 69% of respondents believe that the industry does not have good leadership on issues of sustainability, and rather alarmingly, the second most popular answer to the question "What project is the best example of green construction?" was "Don't know / unknown".

This strategy presents an opportunity to provide this leadership.

- **Engagement and Communication** - Raising public and industry awareness is fundamental to achieving behavioural change.
- **Global Context** – It should be clear how (and by how much) the strategy will help address global and national priorities for sustainable development.
- **Scope** - The strategy must be holistic and inclusive of all issues that have a major impact on the built environment. The exclusion of infrastructure, planning, energy supply and a number of social sustainability issues goes against the overall intention of the strategy to coordinate and guide the direction of existing strategies and initiatives towards a common goal.
- **Legislation** - There must be greater emphasis on enforcing legislation, not only to create a level playing field, but to send the right messages to industry and the public at large.
- **Fiscal Measures** – It is noted that the Treasury is not a signatory to the strategy, yet delivery will be dependent on their commitment. Tax breaks and other fiscal incentives should be considered as part of the strategy to encourage sustainability.
- **Missing Targets** - Targets should be considered for biodiversity to ensure an overall neutral or net-enhancement of wildlife.
- **Future Proofing** – The strategy could be more radical in terms of developing innovative solutions for the future; thinking beyond conventional construction methods and recognising internationally-proven technologies. A good example of this is off-site production / prefabrication, and reduction of embodied carbon.

While the Government's definition of the triple bottom line is the driver of this document, it should be made clear where the urgency lies, i.e. in the area of climate change and resource scarcity, which will increasingly dictate the parameters for economic and social sustainability. Unfortunately the big picture and the big vision are rather lost in the strategy.

- The strategy should address the question of what kind of a society we want to be. It needs to acknowledge that the "endless growth" vision is misguided. We should be more concerned with defining a quality of life, which seeks to limit growth and not to encourage it. Government and industry needs to face up to the prospect of the need to accept falling "wealth" as defined by material economic activity in exchange for securing and (maybe even improving) our quality of environment, establishing long term goals for future generations, international cooperation etc.
- Currently, as seems to set the tone of the strategy, Government is less than unanimously wholehearted in facing up to the realities of Global population growth (2.5 billion in the last 30 years and expected to peak at 9 billion, peak oil, rapidly emerging new economies (China and India) and the inevitable consequent stresses on natural resources and the environment that unfettered economic growth will precipitate on a catastrophic scale. What might seem like a limitation on choice and quality of life at first could become the foundation of a new twenty first century lifestyle, business culture and economy. The mood and opportunity is there for strong Government to ensure that the UK remains at the cutting edge of real, holistic and realistic progress towards a truly sustainable economy. Less may very really be more and a substantial shift from the current economic comfort zone is urgently needed!
- The application of the 'polluter pays' principle should be reinforced more under legislation as a mechanism for better enforcement of regulation
- Targets for up-take of SUDS should be included (notwithstanding consultation due at end of 2007), existing trees subject to TPO or of high conservation value (e.g. A-grade, B-grade) as well as for green infrastructure provision
- We should promote the need for robust measurement of construction impacts at the site level. So, across all construction projects in excess of, say, £500,000 it should be mandatory to measure and report on energy use (and embodied carbon), water use and waste generation. This could be a requirement for Building Regulations completion certificate, therefore capturing both new build and refurbishment.
- **The omission of Planning is a serious weakness of the strategy.** Planning is a key to sustainable development, but construction is essential for the implementation of development. One cannot happen without the other. Although the strategic aspects of Planning may be addressed elsewhere, as a minimum, the sustainable construction strategy should recognise the role of Planning in ensuring that development meets sustainability goals.
- Likewise, the emphasis on building development without highlighting infrastructure requirements is unfortunate. The construction industry not only delivers the structures that constitute our homes, offices, commercial and industrial premises, public and civic buildings, but also delivers the transport, utility and resource networks that enable the developments to function.

Therefore a document that presents a strategy for sustainable construction must also consider those aspects of construction engaged with, for example, earthworks, river training tunnelling and pipe-laying.

- The Output Elements should recognise the contribution of infrastructure in addressing climate change, water, biodiversity, waste and materials. In particular, infrastructure development will be required as part of the national strategy for climate change adaptation.
- Ground engineering is able to deliver sustainable solutions for infrastructure development and this ought to be recognised in the strategy. Appropriate and adequate site investigation will enable correct assessment of materials to ensure maximum reuse of materials, appropriate foundations and retaining structures, minimum excavations and redevelopment of brownfield sites. Ground engineering and in particular the geo-environmental aspects are essential in brownfield development and can “unlock” contaminated sites.
- Other themes which are fully missed out and should be covered:
 1. Social impacts and outputs – construction projects have significant social impacts on both smaller and larger scales. These can be potentially negative (e.g. noise) and positive (e.g. boosting employment and training opportunities in a locality). There are many examples of good practice. Though this are may not be a priority for this document, RICS believes this gap should be addressed.
 2. Economic and affordability issues – it is a fact that many moves to increase sustainability will cost money just as there are many which can be profitable. Whilst costs may be justified and even increase value, the strategy should recognise that cost will have an important impact on future action. Cost will also impact upon issues such as affordability of housing. Identifying economic factors upfront will make the strategy stronger – for instance by encouraging uptake of least cost/most beneficial measures fist allows progress to go further and faster.

Q2 In large part this Strategy focuses on the delivery of environmental targets. Is that the right focus?

It is important to think of Sustainable Development in the context of environmental enhancement, economic viability, and social responsibility. Targets should reflect our aspirations in all three of these areas to ensure a sustainable built environment.

- We would like to see more emphasis on the delivering of outcomes. The strategy identifies and discusses the various issues and targets within them, but does not inform on what to do, or how to deliver. While the strategy cannot – or should not – be too prescriptive, it must be clear about the overall objectives and outcomes.
- The scope and definition of sustainability and the means to achieving it are emergent and changing programmes which will need to adapt and develop in the light of our increasingly potent understanding of the earths support systems and the effects and impacts of industry and commerce on them, an increasingly ethically and environmentally aware public and world wide

developments in environmentally benign technologies and business culture and priorities. This means that prescriptive detail will need constant review. In this context clear and unequivocal impartial targets set in response to the best scientific consensus, but also activating the precautionary principle and endorsed by all Government departments are essential and of highest priority. The delivery of targets is of course equally important and is endorsed as a priority for this paper.

- There is however another urgent need. The strategy explicitly excludes certain aspects of the political and industrial agenda on the basis that they are dealt with elsewhere. This is anomalous; why have a cross department strategy, if it is not comprehensive in its endorsement? The requirement for joined up thinking at Government level in the face of climate change and resource depletion is urgently needed. The environmental issues cannot be addressed only partially. They need a brave and visionary approach and cross department buy-in. Perhaps there needs to be a Secretary of State with powers to force Government departments (including the Treasury) to support and achieve necessary targets as set by the Prime Minister recently. Without a wholehearted single-front approach the best intentions will end up as empty rhetoric and a strategy such as this will be of only academic interest.

While the Strategy is addressing the construction industry, it needs to be set in the context of the effect also of the projects themselves that are being procured through this industry. Is it possible to fully meet emissions targets for instance, while still promulgating a third runway at Heathrow, avoiding action on road congestion and pollution, not addressing the urgent need for railway infrastructure improvements, indulging in wasteful procurement processes for public buildings, not offering financial incentives for the development of Code 6 dwellings, allowing a drifting energy policy that does not fully back renewables, reintroducing the nuclear power agenda, acceptance of unfair payback tariffs for supplying micro-generation surpluses to the grid etc. etc.?

What is more, the 'Targets' within the strategy should not mix those which can be achieved with a high degree of certainty (e.g. several of the regulatory targets) and more aspirational targets, which whilst appropriate, are different in their nature and implementation. We suggest that a distinction should be made.

Q3 What other measures should Government be doing to support the construction industry to become more sustainable – this could cover any aspect of the industry and/or any aspect of its supply chains?

The following are suggestions received from individual CIC members.

- **Remove VAT** from refurbishment work and other works that positively contribute towards the sustainability agenda.
- Give due consideration to a **body that has the authority to raise levy monies** to invest in R&D for new products and technologies that support the sustainability agenda.

- Introduce energy ratings to create user demand for future-proofed investment. Without this buildings will not compete for price on resale in the future.
- Ensure a level playing field so that sustainability is integrated into contractors' competitive bids.
- Offer fiscal incentives for good performers – or finances for poor performance (waived if the fines are appropriately re-invested)
- How can HMG develop the link between Building Control and sustainable construction? They are subject to separate reviews. How do Planning and Building Control mesh together?
- There should be significant advertising campaigns for sustainable construction. Consider the impact of poor energy management. HMG need to influence the people making the 'decision to purchase'.
- Can HMG incentivise small companies through fiscal controls? Information dissemination through Buildings Advice Service?
- What should be the involvement of the Audit Office?
- There is a counter productive welter of groups, bodies and institutions both within Central and Local Government and outside that opine on and seek to regulate the industry with regard to sustainability and in particular energy use. This can be confusing and debilitating even to the sustainability enthusiast. A role that Government could take in this respect would be to bring the regulation of sustainability into the remit of a task group dedicated to coordinating a single holistic strategy that would bring together all the strands of Government and Local Government control so that repetition and contradiction would be ironed out. This would start with the strong and unequivocal leadership and legislation that business and industry needs to re-establish confidence and optimism. In particular, the increasingly overlapping requirements of Town Planning and Building Regulations need to be addressed, possibly by merging and reprioritising these areas of control, within a nationally endorsed set of environmental goals.
- It is worth pointing out that by far **the single biggest measure that Government can employ is robust enforcement of regulation**. It is now understood that the predicted design performance of buildings, particularly from an energy efficiency perspective, is almost never achieved on construction completion due to systemic and cultural failures within the construction industry. This performance gap is often significant and is the single largest barrier to the achievement of our national vision for low and zero-carbon developments. Post-completion performance measurement, and effective application of the polluter pays principle, is therefore essential in addressing these short-comings. Those developers that are committed to improving sustainability standards are often frustrated by the lack of a level playing field, which only robustly enforced regulation can bring, and which undermines efforts to demand high performance standards from the construction sector. This principle must also apply to the effective protection of landscape and ecological features during and after construction works in accordance with relevant legislation and British Standards.

- The phased introduction of Energy Performance Certificates during 2007 and 2008 is a step in the right direction for stimulating a market response to the energy efficiency of buildings. However, EPCs in their current proposed format pay no regard to construction or occupational behaviour, measuring only standardised design predictions of building performance, which as noted above can be significantly different to actual performance. The Government should very seriously consider the roll-out of the Display Energy Certificate format (which measures actual energy consumption) for commercial buildings. This would be a far more helpful tool in addressing poor performance.
- The Government should legislate to make geotechnical ground investigations mandatory for all new developments, including a requirement for those investigations to be managed by competent personnel (i.e.: by engineering geologists and geotechnical engineers with appropriate training and experience) and for the resultant design to be checked and approved by a similarly competent person. The same requirements should apply to modifications to existing developments which involve changes of load on foundations or any works in or under the ground. Currently there is often unsustainable wastage for one or more of the following reasons:
 1. Ground investigations are omitted or are only commissioned late in the design process or, worse still, after problems have been encountered on site
 2. The ground investigation is inappropriate for the type of foundation subsequently selected
- Ensure that the cross-Government agenda on reducing CO2 is effectively joined-up, particularly across economic and regulatory tools.
- Continue to help develop standard definitions of what contributes to sustainability and tools for businesses to use.
- Appropriately targeted investment in science/technology and research and development to help develop lower cost, more sustainable materials, technology and processes.
- Effective use and enforcement of minimum standards to ensure a level playing field across the industry.
- The strategy largely focuses on new build. The nation has a huge legacy of existing buildings and structures and improved incentives for addressing their sustainability impact would be welcome. For example zero carbon homes are exempt from stamp duty and this principle could be extended to incentivise improvement to existing homes. Given that in the near future the UK is likely to build a relatively small number of genuinely zero carbon homes, a more significant environmental improvement could be gained from introducing a system of performance based on tapered reductions in stamp duty for existing homes.

Q4 Does industry have views on the use of building and planning standards across the country to promote the sustainability of developments?

It is important for there to be appropriate linkage and consistency between the planning standards and the building regulations to ensure project managers receive consistent advice at all stages of the construction process - yet planning is excluded from the strategy.

- The building regulations are a robust set of rules that have been developed over a number of years. Through appropriate amendments, they present the best tool for delivering the sustainability agenda rather than developing new standards from scratch.
- This position is supported by a recent CIOB survey of members¹ which found that 67% of respondents felt that the current UK building regulations do not go far enough to create energy efficient buildings. The survey found that building regulations were seen as the most valuable way for the built environment to reduce CO₂, with the majority believing that building regulations were enforceable.
- This would suggest that **the industry would like to see a more forceful and demanding set of regulations** in place to drive sustainable development and market demand.
- We would promote a radical review of all aspects of building legislation to reduce redundancy, bureaucracy and subjectivity in the regulation of the building industry and the quality of its products. It should however be noted that industry responds to demand and the Government might consider, particularly in the field of energy management, that the primary legislation should seek to regulate the building owner and user rather than the industry providers. Such legislation would of course still filter down and come to bear on the industry but by demand from customers and employers and should generate market lead reform, creating a level playing field for competitive suppliers. It would also address the issue of buildings, designed to allow highly sustainable low energy operation, being used in an inefficient or dysfunctional way.
- It is often a condition of planning permission that details of landscape proposals are submitted to the local authority for approval. However, many local authorities lack the necessary depth of landscape expertise with which to judge objectively the appropriateness of landscape proposals. Moreover, the lack of Development Control resources generally further exacerbates the lack of enforcement action taken by local authorities when the implementation of landscape elements within construction projects fails to reflect the design and construction details approved by the authority. This leads frequently to sub-standard and failed landscapes as part of new developments which can have significant adverse socio-economic and environmental impact. These issues are set to become more important and acute as the impacts of a changing climate take hold, especially in urban areas.

¹ The Green Perspective A UK construction industry report on sustainability (2007)

- The Building Regulations (Part C) currently require a ground investigation to be undertaken but no provision is made regarding the competence neither of those managing the investigations, nor for checking of the resultant designs by a competent ground engineering specialist. As a minimum these provisions need to be included in the Building Regulations, and enforced.
- Alternatively, provisions should be incorporated in the planning system which enable and encourage planning authorities to place conditions on planning approvals requiring geotechnical investigations to be undertaken and managed by competent personnel, and for the resultant designs of foundations and associated structures (e.g.: retaining walls and substructures) to be checked by a competent ground engineering specialist before the condition is discharged.

Q5 What more could the construction industry do collectively to contribute to aspects of sustainability – what targets and actions could it sign up to?

- The industry has a clear role in recognising and rewarding those who implement best practice and contribute to meeting the strategic objectives. Industry can also have a role in naming and shaming those who detract from the good name of the industry.
- Industry must continue to **promote apprenticeships, CPD and continuous improvement**. Professional Institutes have an important commitment in this regard.
- Individual organisations can commit to the highest level of environmental sustainability leadership by implementing Environmental Management Systems e.g. ISO 14001.
- The construction industry could benchmark its use of resources (energy, materials, water) on site and develop targets to reduce wastage. Many construction companies already undertake this best practice. However, the fragmentation of the industry and the large number of SME represent a challenge in developing realistic targets applicable throughout the industry.
- Trade associations have a role to play in setting best practice for SME in areas such as health & safety, waste management and management of community impacts. To achieve best practice, competence is essential (see response to Q6).
- The industry should ensure that sustainable outcomes should be a key part of its marketing to clients.

Q6 If you represent part of the construction industry, what actions could your organisation sign-up to, to improve particular aspects of sustainability?

The CIC is prepared to make the following commitments:

- To be at the forefront of owning, developing and implementing the sustainable construction strategy for the built environment and the construction industry;

- To seek a commitment from members to own, develop and implement the sustainable construction strategy;
- To press for the sustainable construction strategy to underpin all new regulation, codes and best practice guidance, and for all existing regulation, codes and best practice should be tested against the strategy;
- To maximise influence on all key decision-makers and exercise an authoritative voice in promoting and implementing the sustainable construction industry;
- To continue to work towards an integrated and safe industry, which is totally committed to sustainable construction;
- To communicate the sustainable construction strategy and encourage operational activity which underpins it amongst our members and to all stakeholders;
- To raise awareness of career opportunities, training and skills development needs in relation to sustainable construction;
- To ensure that the sustainable construction strategy is enhanced and developed through our ownership of the Design Quality Indicator by requiring that appropriate performance outcomes for sustainability are enshrined within the DQI methodology and that appropriate data on stakeholder aspirations regarding sustainability is collected and available for analysis;
- To ensure that the sustainable construction strategy is acknowledged and emphasised through the ongoing CIC Corporate Plan, its mission, core values and priorities;
- To ensure that the process of assessing and registering Approved Inspectors is satisfactorily underpinned by appropriate knowledge of the key aspects of the sustainable construction strategy;
- To encourage research, innovation and knowledge exchange in pursuit of sustainable construction;
- To consider the enhancement of common learning outcomes for professional education that adhere to the sustainable construction strategy;
- To consider the development of specific Continuing Professional Development based on the sustainable construction strategy;
- To lobby and encourage all other stakeholders to implement the sustainable construction strategy as the overarching source for the development of specialist professional standards (e.g. in procurement) and specific product requirements (e.g. sustainable homes and offices);
- To ensure that the Construction Commitments (hosted by CIC on behalf of the Strategic Forum for Construction) take full account of the sustainable construction strategy;
- To work with PI-UK (China) to export the principles of the sustainable construction strategy in China and elsewhere overseas.

Q7 How do you think progress should be measured against the targets? Who should be responsible for measuring, evaluating and reporting on the actions of both Government and industry in moving towards the targets?

In order to measure progress against the targets it is imperative to have good quality, meaningful data to benchmark against.

- All objectives/outcomes must be Specific; Measurable; Achievable; Relevant; and Time-bound. The targets should help deliver the desired outcome.
- Responsibilities must be clearly defined in the strategy for the various organisations involved in delivering different parts of the strategy.
- We believe that to genuinely measure progress towards Sustainable Construction, a set of numerically expressed high level outcome goals are needed, linked to the government's own high level SD indicators. This would allow a meaningful assessment of the construction sector's contribution to SD to be made.
- Overall responsibility for reporting progress against the strategy should fall to one body that can be held accountable. There is also the need for a statistical unit within government to collect the necessary data professionally, given the size, complexity and significance of the construction industry. This may or may not be the same organisation.
- It is important that the body charged with monitoring and reporting on progress of the strategy has sufficient independence to hold government and industry to account. Ideally it should also be able to offer up advice for rectifying any failings. The Sustainable Development Commission has the potential to fulfil this role although we are unclear if it has sufficient resources. In particular the collection and publication of data will be vital. The implementation body must either be resourced to carry out this role or be empowered to work closely with government and industry statistics gathering organisations.

Q8 What in your view are the major costs and benefits of this Strategy for industry, clients, Government and the public at large?

Benefits:

- Industry is seen and recognised as being in the vanguard of delivering sustainability.
- UK PLC recognised as world leaders in trading knowledge and services around the world.
- Better long term security of investment
- Reduced carbon emissions.
- Potential for people to buy sustainable property.

Costs:

- Should be offset by the gains
- Any fiscal measures that are put in place as a result of the strategy could cost the industry and/or Government
- Need to consider the cost of not adopting this strategy

Sustainable design is not delineated by conventional economics, it is a matter of our dependence on earth systems which do not have a price, but which are under threat from unregulated exploitation. The benefit of a sustainable industry can be described in terms of the securing of an acceptable state of wellbeing, protection of species, habitats, biodiversity and minimising climate change in a context of Global politics. With an appropriate approach and incentives from Government the development and application of sustainable technologies should have commercial benefits as well. The costs may seem unpalatable at first but will become insignificant in the long term. Vested interest in what will become outmoded technologies will be the most difficult obstacle to achieving the medium to long-term benefits.

The costs and benefits also depend on the particular target measure and part of the industry. For some, costs will be relatively small (e.g. just utilising DQIs) for others they will be very sizeable indeed (e.g. zero carbon commitment for homes by 2016).

Therefore we believe that economics and affordability needs to be included as a key theme in the strategy to help ensure these issues are managed upfront.

The engagement and participation of small businesses and clients should be encouraged and incentivised if the strategy is to have the desired impact on the construction industry as a whole.

It would also be useful for Government to set out the cost of not delivering the strategy, pursuant to the precedent set by the Stern Review into the economics of climate change.

Q9 Do you think that there will be compliance issues for small business and one-off clients that disadvantage these groupings relative to larger businesses and clients? If so, what are they?

An ongoing challenge will be the communication of requirements and key messages to small business and one-off clients, for achieving the necessary behaviour change. Not only are they a disparate group, but they may not have the resources to dedicate to training and/or external advice.

- Small business may not have the necessary personnel or facilities. For example, small construction firms operating on a restricted site may not be able to achieve zero waste.
- A focus on, and leadership from, the more significant players in the industry would help mainstream best practice for the wider industry; thereby making sustainability the norm of trade.
- Some of the aspirational targets will necessarily have to be driven by larger players in the market. They have the economies of scale for innovation and

also to reduce costs; though some small businesses' business models are innovative.

- Going forward, it is essential that full impact assessment is conducted utilising the latest guidelines from the Better regulation executive. These include a requirement for analysing the level of cost on micro, small, medium and large businesses.

Q10 Sustainability is a world-wide challenge, not simply a UK preoccupation. How can we best ensure that UK business takes full account of the trade opportunities this offers?

There is an opportunity for bodies such as CIC and Government to work together to become key conduits in the import and export of 'best practice'. This would include showcasing exemplar projects to demonstrate what can be achieved through international centres of excellence, and the promotion of UK academic professional qualifications (which are already very highly regarded overseas).

The following are suggestions received from CIC members.

- Government must recognise the benefits of international students and put in place incentives, rather than barriers, to enable them to study here. Jointly industry and government must encourage international exchange programmes to provide mutual benefit to business and to participating nations.
- In terms of leading by example, Government could insist on the adoption of appropriate sustainability measures before providing economic support to other nations.
- The UK can best ensure access to trade opportunities by being at the cutting edge of sustainable technologies. This requires demonstration by example and the progression of the UK towards an attractive sustainable society as a whole. Our current environmental problems are the result of the industries of the past and the outmoded habits of the present, which still seem attractive to developing economies and who are likely to continue along a well-trodden route. Unless we live the sustainable agenda, it will not be attractive to emerging economies, which should provide our best markets for sustainable products and technologies. Always assuming that Global trade in itself adopts sustainable practices in the areas of communication; transportation and distribution this might bring legitimate (Sustainable) wealth to the UK.
- Ensure that materials and products are internationally competitive by ensuring international action on carbon pricing. For example, if only UK materials incorporate a charge for related CO₂ emissions, higher polluting imports could out-compete them.
- Government can help market innovative professional services to other countries, as part of its trade representation. This will also help increase the influence of the UK on standards of sustainability and emissions in other countries.

Q11 How can the Strategy be refreshed in future?

It should be a living strategy that evolves as new information becomes available. An agreed review period would be useful, at which time achievements are identified as well as future direction.

- The strategy must be consistent with UK and international targets.
- While it is inevitable that the Strategy deals with many organisations and initiatives, there is a constant need for simplicity and clarity in the delivery of the central message. It is finding ways to deliver the message in ways that avoid “fatigue” that is probably the most difficult. We rely on journalism and committed activists to show us what is happening in the world due to unsustainable development. There is a wealth of creative talent available as well as committed environmentalists that the Government could fund and tap into to add a sense of relevance and urgency to the sustainability strategy. For the general reader, and even to some extent the professional or business executive, the sheer complexity and weight of the issues can be daunting and defeating. Whatever can be done, through best use of media, will help to keep industry “on its toes”.
- The strategy itself does not represent a plan of action against which progress can be effectively measured. An Action Plan is therefore needed to set out how the broad strategy targets will be achieved, so that progress can be measured against delivery of actions, outputs and KPIs, with broader reference to the monitoring of progress against high-level targets. An effective reporting mechanism for the industry and regulators will therefore be needed.
- It is suggested that progress against KPIs should be reported annually, with a comprehensive Government-industry review of the strategy undertaken every two or three years. Instigating such reviews could be a task for the independent body charged with monitoring the strategy.

Procurement

Q12 What specific actions could the construction industry take to lead by example and procure construction projects more sustainably?

The CIC members suggested the following:

- In order to achieve the targets set out in the strategy it is important to have a clear understanding of what a sustainable supply chain looks like, and ensure that we have good quality data to benchmark against.
- The industry also has a clear leadership and communication role in promoting best practice and mainstreaming sustainable procurement practices.
- Wider adoption of certification under BS EN ISO 14001, 2004: Environmental Management Systems, though this standard itself needs to be made more user friendly. All companies need to be required to publish Environmental Policy Statements and Corporate Social Responsibility Statements and then take them seriously.

- Appropriate and meaningful KPI's should be developed and incorporated into both the industry and government's decision-making process for awarding project work.
- The construction industry should be required to report on the source of all key materials procured for individual construction projects as well as their embodied energy content.
- The widespread use of independently certified products (similar to the established use of FSC or equivalent timber) relating to demonstrate responsible procurement.
- For all individual construction projects over a reasonable value threshold, the construction industry should be required to measure and report publicly on energy consumption, water consumption and waste generation arising from the construction process. DBERR should create a reporting portal to facilitate this.

Design

Q13 Is target 5.2 stretching, achievable and realistic? If not then please propose an alternative. Which organisation or organisations should be responsible for this target?

The CIC members suggested the following:

- Why set such a low target (20%) for such a crucial activity. If it is felt necessary to limit numbers, raise the value instead and go for 100%. All projects in excess of £1M could easily be subject to BREEAM assessments and DQI or (authorised) equivalents. Local authorities are asking for these through TP legislation anyway. If this became a Government requirement, it could possibly be reprioritised to the appropriate stage of design, which is not at TP application stage.

We would also welcome a specific target for the commercial sector which sets a proportion of excellent ratings to be achieved (say 20%), and a proportion of 'very good' ratings to be achieved (say 50%).

- We believe that more needs to be done to actively bring the private sector into the fold. The public sector should indeed spearhead the advancement of sustainable construction. We believe that English Partnerships and the Housing Corporation have led the way in implementing sound frameworks for delivering well-designed, sustainable public projects. The Housing Corporation's Design and Quality Standards, published in April 2007 set out the core design standards for the provision of social housing.
- We feel that institutional disparity should be avoided, i.e.: where the industry does not feel obliged to follow important design quality benchmarks in private sector projects. We believe therefore, that this strategy's targets should be more ambitious. DBERR's 20% target figure should represent only a starting point, with 40% of all projects to use BREEAM and DQI by 2010 leading to 100% as soon as possible thereafter.

- We see the Design Quality Indicator process as a good way to assess and influence the design implications of a given project. Care must be taken, however, in using the DQIs as simplistic, binary assessment methods. The notion that the 'DQI box' can simply be ticked is not helpful and should be avoided. The considered recommendations that are offered by DQIs need to be absorbed into the project, after the official assessment. Failure to do this renders the whole process futile. The added value of architect involvement should be taken into account rather than treating the DQI as objective benchmarks.

Q14 Which of the proposed actions for business do you consider to be a priority? Why? What are the barriers to implementing this action and how might they be overcome? Who should take the lead in implementing this action?

The CIC members suggested the following:

- Our priorities for business would be the sharing of knowledge and experiences in the area of sustainable development with a view to establishing clear guidelines on available technologies to meet clearly established Government targets, which suggests that item 5.26 comes first. Next would be the appointment of "Design Champions" though possibly more specifically "Sustainable Design Champions" and the more universal application with feedback of the measures in item 5.21
- The recommendations for business contained in clauses 5.18 to 5.26 as a whole contain a melange of Government ideas and incentives that have been promoted for a number of years and are adopted on public sector projects more universally than private. The section seems to have lost its sustainability focus here. The appraisal of "Design Quality" can be subjective and the promotion of Design Review Panels has to be approached with caution. We have traditionally been against restrictive aesthetic controls through Town Planning and other forms of legislation. The introduction of Design Review Panels is to be welcomed only if their comments are regarded as an advisory opinion and not relied on by indecisive planning officers as the basis of the formulation of their recommendation. Panels of architects and other professionals, while hopefully offering informed and expert opinion, are vulnerable to partisanship and prejudice. Clearly, CABA instigated Design Review Panels for Strategic Projects will be crucial and here sustainability must be a crucial issue seriously taken into account.
- Equally, though they may have performed well in many instances, the integrated design and construction team does not have a monopoly over success in successful project delivery. The most successful projects are those where committed teams work with energy and enthusiasm towards achieving excellence with passion and creativity and an understanding of the specific end users needs and ambitions. The need for objectivity in appraisal comes in when the project is subject to external control as at Town Planning and Building Control stages. We would support objective appraisal at these stages and BREEAM is the current industry standard for sustainability and should be used, though not to the exclusion of other methods of appraisal that may emerge. We believe that project teams should be allowed some scope in the DQIs they adopt though the criteria for sustainability should include

clearly defined Government determined targets, provided that certain subject areas are covered. Targets need to be framed in the least prescriptive way possible so that the design team can choose appropriate technologies. For smaller projects optional “deemed to satisfy” techniques can be offered in addition to framing criteria and targets.

- With regard to PCEs and POEs, these need to be added to the various project Plans of Work (e.g. the RIBA Plan of Work) so that they are allocated appropriate fees to allow them to be addressed effectively.
- It is imperative that the UK construction industry rethinks the whole construction process, embracing modern process improvement tools and systems thinking methodologies. This must go beyond the search for a silver bullet such as off-site construction methodologies, which in isolation will not address the extent of performance enhancements required.
- Urgent emphasis is required on post-completion performance testing by way of compliance testing against 2006 Building Regulations.
- A culture of continuous improvement is needed within the industry, underpinned by robust design, production planning and systematic feedback on realised sustainability and energy performance, with particular attention paid to the practicalities of construction and development sequencing. This will require true integration between the design and construction processes, and must address landscape and public realm as much as it does building envelope.
- Much improved sequencing of construction tasks, commitment to resolve faults as they occur, robust procedures for controlling product and material substitution and effectively communicated quality control are all necessary to improve the sustainability of construction projects. Landscape is often the sacrificial lamb to overspend and programming delays elsewhere on projects, which leads to sub-standard implementation (and management) which undermines the environmental and commercial performance of completed developments. A thorough understanding and commitment to landscape and public realm as an integral component of a construction project is therefore necessary.
- Improved integration between developers and their suppliers is required, starting at the whole building and through to individual components required to achieve the desired performance.
- A greater level of sustainable design expertise is required across the industry. This has implications for professional and trade bodies through appropriately focused CPD, as well as academic institutions who are training the next generations of designers.
- We believe that businesses need leadership in terms of delivering sustainable construction. We find it hard to see how the DBERR’s assertion that businesses should ‘insist’ or ‘demand’ various measures to insure well-designed projects would be sufficient in itself. We believe that built environmental professionals can work best under clear design guidance which applies across the board. The Government’s Code for Sustainable Homes which is to be made mandatory to level 3 in 2010 has been largely welcomed as a positive step. This kind of straightforward approach to issues of sustainability could

act as a model for further incorporating issues of design into the construction industry.

- Others actions for business that would be considered a priority include:
 - Design for climate change
 - Design to ameliorate higher energy costs
 - Design to use clean energy (rather than burn oil or gas on site)

The People Agenda

Q15 If you agree that the proposed key actions and deliverables covered in the People Agenda reflect the main priority areas to deliver sustainability for the industry, what specific work streams and targets would help deliver these commitments?

The CIC members suggested the following.

- H&S: We support the targets that have been set for health and safety, but feels they could be a little more 'imaginative'. There is no recognition of the need to harness greater use of 'offsite production' and other innovative technologies as a way to achieve the desired outcomes, and no mention of the potential for international, national or regional centres of excellence.

Again, there is a need for good quality baseline data to be identified and used as a benchmark. This must be supported by ongoing reviews, monitoring and reporting.

- Skills: We support the targets that have been set for skills but questions if they are achievable. The target to review the content of all qualifications would need to be university-led, but would need to be supported by appropriate training for academics. (The practical reality is that university courses tend to reflect the expertise of the academics teaching them)

The role of professional institutions through the accreditation process must be integral to this section of the strategy.

It is important to integrate further education, training and employment with the training funding schemes through training academies and schemes for Local Labour in Construction (LLiC). This will help to avoid the cycle that many experience of finding a job but a lack of training resource, and vice versa.

- The Key Actions seem to introduce the need to tackle sustainability into the main areas of the Sector Skills Councils responsibility and the general targets and milestones of the People Agenda section seem to address raising the skill and experience base within the industry in a way that will allow the more stringent requirements of sustainable construction to be addressed.

Q16 Do you agree that these workstreams and targets should be peer-reviewed by industry experts (e.g. relevant Sector Skills Councils), prioritised, and Action Plans developed to take the best ideas forward?

Yes. This could form part of Continuous Professional Development.

Better Regulation

Q17 We would be grateful for information from you on specific pieces of legislation which are impeding your ability to be more sustainable in your business operations.

The following specific pieces of legislation have been identified as barriers to sustainability:

- Environmental Information Regulations 2003 – not enforced
- Site Waste Management legislation – not enforced
- Asbestos Licensing Regulations 2004
- Clean Neighbourhood and Environmental Protection Act 2005
- Building Regulations to meet the Code for Sustainable Homes – need revision
- EU and UK Waste (hazardous substance) definitions do not align causing confusion as to what needs to be achieved for industry and waste regulators alike.
- Overlapping requirements of town planning and building regulation regimes are sometimes counter-productive when persuading clients of the benefit/need for sustainability
- Re-development of brownfield land is currently being hampered significantly by the uncertainty associated with Soil Guideline Values (SGVs) for use with the Environment Agency's CLEA model. Whilst not strictly a legislative issue this is an area where Government action is needed to resolve a major problem for sustainable development. SGVs have been controversial since they were introduced, including such fundamental issues as what they mean and how they should be used. An SGV Task Force was established by the Cabinet Office and was making useful progress until it has disbanded. The Defra document "Assessing Risks From Land Contamination - a Proportionate Approach – Soil Guideline Values: The Way Forward" was published in November 2006 (Clan 6/06) but the timetable set out in that document has not been achieved. The Association of Geotechnical and Geoenvironmental Specialists (AGS), one of the members of Ground Forum, is now trying to assist Defra to establish a strategy to resolve this issue.

Earthworks and tunnelling may be subject to inappropriate application of waste related regulation. Examples can be provided of material re-use being

prevented by dogmatic application of the Aggregate Levy and Waste Management Regulations. Guidance should be provided to Government agencies to help ensure consistent decisions that do not contradict the objectives of sustainable development.

Climate Change

Q18 Are there other actions that the Government should be taking to help the construction industry rise to the challenge of climate change?

The following suggestions have been provided by CIC members.

- In partnership with industry, actively promote British construction around the world.
- Set up a directory/one-stop shop for sustainable construction, listing all relevant organisations – what they do and how they can help. Content should be listed in a way in which it outlines positive messages such as value for money and bottom line savings.
- Facilitate some positive promotional TV for the British and global audience about achievements, endorsed by household names. This should also help encourage young people in to the industry.
- Better organise the intellectual infrastructure at central and local government to help the industry achieve the requirements of government policy.
- The implementation of post-completion thermal performance testing is a vital step in ensuring that the construction sector achieves the regulatory standards required under Part L 2006 and future changes en route to the 2016 target for zero-carbon homes.
- The phased introduction of Energy Performance Certificates during 2007 and 2008 is a step in the right direction for stimulating a market response to the energy efficiency of buildings. However, EPCs in their current proposed format pay no regard to construction or occupational behaviour, measuring only standardised design predictions of building performance, which as noted above can be significantly different to actual performance. The Government should very seriously consider the roll-out of the Display Energy Certificate format (which measures actual energy consumption) for commercial buildings. This would be a far more helpful tool in addressing poor performance.
- All new construction and development activity adds to the UK's growing carbon emissions. A concerted programme of action is therefore required to improve the performance of existing stock to ensure that the built environment realises the 80% emissions reduction needed in the UK by 2030. As an initial component of such a programme, all new development activity should be at least off-set by carbon improvements in existing buildings, perhaps through the innovative use of s106 agreements through planning permissions. The need to remove the 17.5% VAT rate on refurbishment activity is also crucial,

and could be off-set by new fiscal penalties relating to poor energy performance in existing buildings.

- The draft strategy does little to tackle the issue of embodied energy in the construction process and in the materials used for new buildings and refurbishments. This is a serious omission.
- The strategy is silent on the role of well-designed and managed green infrastructure on mitigating and adapting to climate change. We would welcome the inclusion of targets relating to the implementation of 'extensive' green roof systems on existing buildings and new developments, by way of improving thermal efficiency, ameliorating surface water run-off and providing habitats for key species. Targets for the incorporation of SUDS schemes in respect of their climate change adaptation role would also be welcomed.
- Ground Source Heat as a source of renewable energy has not yet enjoyed sufficient support for the contribution it can make to carbon reduction programmes. There is speculation that the Government wants to cut the target for renewable energy which is currently 20% by 2020. Government should make its position clear on renewable energy in general and seek wider expansion and development of the Merton Rule which only requires new commercial use buildings to reduce carbon emissions by 10% through the use of renewable energy sources. The use of ground source heat is applicable almost anywhere in the UK, can be incorporated into both new build AND existing buildings and is a localised source of renewable energy. Through the planning process, more government discussion and recognition of this specific technology and involvement with the ground source heat sector, the use of this ground resource could be expanded and adopted more widely in the construction industry.

Q19 What targets could industry specifically sign up to, to increase the positive impact they can have on climate change through their activities?

The CIC members suggested the following.

- In chapter 9 (Climate Change) there is no Target or Milestone related to existing building stock. Until this is addressed our reduction in carbon emissions from new build will only scratch the surface, even where regulated.
- If the analysis of Climate Change and resource depletion promulgated by the Government and the consensus of the scientific community is correct, then there is no question of "what industry can sign up to" only "what is necessary to secure a sustainable future, adopting best science and the precautionary principle." Such an approach would give industry a kind of certainty and an incentive to act effectively on a level playing field. There will inevitably be winners and losers. Earth systems are the foundation of economic success but do not benefit from growth in GDP. We are considering something more fundamental than national security here and it should be addressed accordingly.
- There are also no targets for the carbon footprint of the construction sector itself - in terms of material procurement and site activity. Reduction targets

should be established which set the sector on course for an 80% reduction by 2030.

Water

Q20 Do the targets and milestones in this chapter appear realistic, achievable and sufficiently ambitious over the time frames envisaged? If not, then please suggest alternatives, and who should be responsible for their implementation.

While most CIC members agree that the targets are realistic and achievable, one suggestion merits further consideration. That maximum consumption should be 100 litres per person per day regardless of whom or where they are.

It is also important to recognise the role of the water authorities in terms of water leakage and maintenance. There is a concern that there is no accountability at the current time (and that has the potential to get worse with the introduction of the Water Act 2008).

Q21 Are there any issues which have not been covered which you feel should be addressed? If so, what are they and what targets and milestones would you propose?

- Flood defence targets and milestones - adaptive elements to accommodate flood risk design both in properties and the infrastructure. Adapting drainage (both existing and sustainable systems) is a key component of this. (n.b. Public consultation on options for ownership and adoption of Sustainable Drainage Systems will take place towards the end of 2007.)
- Grey and brown water recycling targets and milestones.
- Targets for retail and commercial buildings.
- Targets for renewable energy sources.
- The strategy does not tackle the use of water by the construction sector but focuses solely on the water efficiency of completed buildings. This is an important omission and should address both water use and protection of water quality from poor site management leading to contamination and irreversible disturbance to soil drainage characteristics.
- We welcome the commitment by Government to a national consultation on SUDS and look forward to contributing to its progress in due course. In particular, Government and the regulatory authority must clamp down on the actions of some utility companies to prevent the uptake of SUDS on new developments through prohibitive adoption requirements when others, both in England and especially in Scotland, are taking a much more progressive and successful approach.
- We strongly support the proposal to consult on ownership and adoption of SDS. We note however that SDS are unlikely to be effective in extreme

weather events and neither will any other drainage system. In such events drainage will be overtopped leading to overland flows. This highlights the need to look at the design of buildings and whole settlements to cope with such flows as extreme events are likely to become more frequent as the impact of climate change hits home. On a point of definition sustainable drainage should not be limited to urban areas and therefore dropping the U from SUDS would be appropriate.

- Key to implementation of SUDS is the long term ownership of the asset and infrastructure and this issue does need to be tackled.
- We would welcome the inclusion of specific targets relating to the implementation of 'extensive' green roof systems on existing buildings and new developments, by way of improving thermal efficiency, ameliorating surface water run-off and providing habitats for key species. Targets for the incorporation of SUDS schemes in respect of their climate change adaptation role would also be welcomed.
- **Potable water use:** While new build targets for whole building performance in litres/day/person are laudable and beneficial we believe they should be complemented by component based standards for maximum flow or water usage by key fittings, especially for white goods such as washing machines and dish washers. We also strongly support the recent DEFRA consultation on the extension of compulsory water metering powers for water companies. We would also encourage government to explore the possibility of introducing variable charges for non essential water uses as we believe such measures will encourage householders and other users to place more value on water resources and incentivise more sustainable behaviour.

Biodiversity

Q22 The aim of the proposal in paragraph 11.8 would be to create an integrated approach to maintain and where possible enhance biodiversity as a result of construction sector activity. Please say what you think would be helpful to companies in the construction sector to support the aims of maintaining and enhancing biodiversity.

The following would be helpful to companies in the construction sector according to the CIC members.

- Training and IT tools.
- Innovation and research.
- Integrated catchment planning should be an integral part of the planning process.
- Central Government, Regional Planning Authorities and Local Planning Authorities regulate the designation and availability of development land through the Town and Country Planning Acts. Clearly there should be and to some extent is a hierarchy of sensitivity to development for any site in the UK,

from total wilderness to full urbanisation. While any site may be worthy of contributing to the sustaining of biodiversity, this is more practical in the former than the latter. The designation of development land should also include the drawing up of a biodiversity profile, so that potential developers may know in advance what issues they are likely to be faced with. This would put at least some of the responsibility with the Local Authority to draw a site specific Biodiversity plan along with their Local Plan and this would become a part of the planning policy for the area. It would specify areas of low biodiversity value as well as those that are sensitive. That is not to say that even in areas of low sensitivity, certain minimum requirements might not also apply, related to the use classes and densities stipulated or agreed.

- We recommend the inclusion of a net enhancement target for biodiversity.
- BREEAM should be revised to incorporate (and the forthcoming Code for Sustainable Non-Domestic Buildings should address) due credit for site-wide ecological enhancement where this is outside of the net developable area but still directly linked to the development project.

Waste

Q23 Is it feasible to halve construction, demolition and excavation waste to landfill by 2012² from a baseline of 2005? Is the baseline date appropriate, and what specifically has to be done, and by whom, to achieve this target?

- The target should be achievable given the right baseline data, support, infrastructure, training and licensing systems. There are currently conflicts that exist in waste disposal in terms of costs and definitions of waste, and these need to be resolved before progress can be made. Industry needs to see a pragmatic approach from the Environment Agency to allow the re-use of materials.
- The approach should be a combination of ‘carrot’ and ‘stick’ to get the best results. Incentive based approaches should also be explored.
- Programmes such as WRAP have established best practice, but the challenge is to ensure that this is followed by SME.
- However the target stated as “By 2012, a 50% reduction of construction, demolition and excavation waste to landfill compared to 2005” is potentially misleading since it is significantly qualified in the note in the box in paragraph 12.1.25. The target as presently stated implies a reduction in Construction, Demolition and Excavation Waste (CDEW) to landfill of 22Mt whereas the qualified target actually proposed is for reduction of 17.5Mt. It is feasible that the volume of CDEW going to landfill could be halved by 2012, but this will depend on achieving a significant reduction in the clean excavation waste presently landfilled. To some degree this will depend on chance and will require the continuous availability in all parts of the country of “registered

² For more details on this proposed target see Annex C3 to Waste Strategy for England 2007 (Box C3.2 on page 15) at <http://www.defra.gov.uk/environment/waste/strategy/strategy07/pdf/waste07-annex-c3.pdf>

exempt” sites requiring excess clean excavation waste. If this does not occur then a very large reduction in the non-inert, mixed CDEW, whose reduction requires significantly greater management effort, will be required.

Q24 Do the targets, milestones and proposals for waste appear realistic, achievable and sufficiently ambitious over the time frames envisaged? If not, then please suggest alternatives and who should be responsible for their implementation.

Not unless the alignment above can be achieved bearing in mind the European Waste Directive 35.4.4.2 and the ‘Vander Val’ judgement.

- We are not convinced that in current circumstances, the first and third targets are realistic or achievable. Before proposing alternative targets it would be prudent for government and stakeholders to gain some experience of the nature and quality of data collected on CDEW by the National Waste Data Strategy (which is expected to replace the regular CDEW surveys carried out by Communities and Local Government and its predecessors) and the degree of precision attached to that data.
- The second target is closely associated with a new measure, net waste which is being trialled by WRAP but which has not yet, as far as we are aware, been proven. It would be wise for government to gain some experience of the concept and its associated estimation tool and the ability and willingness of industry to use it, before making a commitment based on this approach.

Q25 We propose new measures in paragraphs 12.1.18 and 12.1.19 to stimulate action to improve resource efficiency, reduce waste and increase diversion from landfill (through more re-use, recycling and recovery). Are these measures achievable and sufficiently ambitious? What needs to be done and by whom to achieve these aims?

The measures are achievable however it might be worth considering some form of incentive scheme (e.g. tax breaks) to encourage the use of reclaimed and recycled materials in construction projects.

- The proposal in 12.1.18 is feasible but may be considered a burden in the private sector if contractors write a cost against clauses in building contracts requiring measurement and improvement in materials and resource efficiency, even though carrying out the exercise could result in materials savings.
- The proposal in 12.1.19: The concept of zero net waste offers an interesting approach to establishing an achievable target for site waste, but the achievement of zero net waste on site even thus defined is and will increasingly become as much down to design and construction methodology as it is to site activities.
- We are not convinced however that the measures outlined in these paragraphs will have a great impact. Waste segregation, (widely accepted as being crucial to boosting resource efficiency on construction and demolition

sites) is heavily dependent on the availability of space and time. Contracts can ensure time is created for practices such as selective demolition but it is far harder to create physical space by this type of intervention. In practice, even very large city centre sites may lack the space to make high levels of separation and on site recycling a feasible option

Q26 New measures to stimulate action from companies to improve resource efficiency are proposed in paragraphs 12.1.20 – 12.1.24. Please prioritise these proposals and identify quick win opportunities with high impact.

These points are primarily directed at contractors, who should answer them, with the exception of 12.1.23, which deals with designers and architects. The points made about design we would endorse but the recommendations could remain theoretical without some incentives to the property supply sector to take up the ideas seriously. The property sector responds most effectively to legislative control and market demand. Demand comes from the Public and Private sectors. In the Public Sector, it is within the remit of Government and Local Government to require professional teams to address the issues, while the Private Sector responds to the requirements of Corporate Business Strategies, ultimately consumer demand and shareholder influence. This suggests that, if the Government is serious in its intent with regard to resource management in particular and sustainability as a whole, a broad and intensive information/education campaign addressing both consumers and producers is essential to the initiation of a voluntary process.

- We would like to see greater profile for existing policy tools such as WRAP and the landfill tax. We question whether action should be focussed around the core problem (e.g. by the progressive raising of landfill tax) as this would then help ensure the optimal economic mix of landfill. It might be less costly for other sources of waste to reduce more and construction less, or vice versa. We do question whether achieving the long term target of zero waste targets is economically feasible or appropriate.

Materials

Q27 Do you agree that the targets and milestones proposed for Materials will deliver improved resource efficiency with reduced environmental and societal impacts, and are sufficiently ambitious? If not, then please propose alternative targets.

Yes but they should be kept under review. It may also be worth considering some form of weighting of targets so as to prioritise those who have the most detrimental effect on the environment.

- Environmental Product Declarations must have common Product Category Rules (PCR) to ensure direct comparisons can be made between products and sectors.
- A responsible sourcing framework should be used to consolidate any disparate schemes.

- 12.2.1, EPDs should make it easier to choose sustainable products but relies on voluntary action. The content and philosophy of EPDs is set out clearly on the various web pages, but still clarity with respect to “Stewardship and responsible sourcing” (12.2.2) is harder to find. This section of the strategy is perhaps the least focussed and needs to be more specific and concise. The emphasis given to the FSC scheme is symptomatic of the lack of initiatives in other areas and indeed the complexity of the subject matter. Government needs to pull together or at least relate the various initiatives on the sustainability of building materials and the way they are used. The Green Guide has been a landmark document, but is a relatively coarse tool. The difficulty for the designer is finding relevant and assimilable comparative product information.

Q28 What can you do to implement a whole life approach to sustainability in your business?

The following are suggestions received from individual CIC members.

- Major clients are in a position to provide leadership in this area by making ‘whole life costing’ a core component of decision-making. To do this effectively, additional financial support would be required from government.
- National Agreed Whole life costing software needs agreement and standardisation along with a simple method of assessment.
- We would welcome the development of standardised software to calculate the whole-life costs of construction materials and would be happy to promote its use (subject to its robustness) to our Members and partner organisations.

Other comments

General

- A greater level of simplicity is needed in the final Sustainable Construction Strategy.
- The role of the architect within the construction industry is more important than ever. Sustainable construction requires good design skills. Architects can deliver more on this.
- DBERR's Strategy should contain more ambitious design targets. The public sector should continue to spearhead the full adoption of good sustainable design practice. However, developers must be encouraged to follow suit in the delivery of private sector projects.
- The proposed increase in the use of Design Quality Indicators is welcomed. However, this will only be effective if DQI recommendations are taken into account and used to improve project outcomes.
- Targets that address the environmental sustainability of existing accommodation are very welcome. More needs to be done to tackle the existing housing stock and climate change.
- There is some confusion in the targets presented in the Draft Strategy, because it does not say who the targets are specifically for, or who needs to act. Some appear to be driven by government purposes, while the agents for change lie outside the government (i.e. industry players). In general, the milestone targets imply a top-down model which, to be successful, will require buy-in or ownership of the targets by the construction industry.
- Several of the targets are based on the percentage of construction firms or projects meeting particular objectives. (For example, "20% of all projects with a value in excess of £1 million to have used Design Quality Indicators and BREEAM".) It is unclear whether these are to be achieved in a proactive manner i.e. or simply measured retrospectively. While some industry sectors are likely to respond to this challenge, how is overall achievement to be promoted.
- BREEAM tools are given prominence in the document. While these are well-established, there are a range of other tools available. In this context, CEEQUAL should also be promoted, as is the case in the OGC guidance.

We acknowledge the 'big picture' but ...

- In its current form the strategy does not adequately consider the UK construction industry's role in delivering sustainability objectives within a national or international context. It is not clear what proportion of the overall problem, or solution, the strategy will address, or how it will align with existing international and national sustainable development commitments.
- Whilst we recognise the need to clearly define the scope of any strategy to determine what will, and will not be addressed, it is also important to incorporate wider policy context in terms of national priorities such as planning and energy security, and the UK's international commitments.

- For example, the strategy has a strong focus on delivering zero-carbon housing, but simply setting targets for building zero-carbon homes, fails to tackle the more significant issue – decarbonisation of the industry’s energy supply at source.
- Recognition of the wider context within the strategy would demonstrate leadership (as opposed to pre-determined agendas), and help identify the best way to achieve the desired outcomes.
- It is also important that the strategy recognises, and explains, the complexity of the construction industry and the construction process; to identify the best intervention points and the key drivers for change.

We support an outcome-based strategy with clear priorities but ...

- The strategy must focus on achieving outcomes in a collaborative and co-ordinated way. Targets are a good way to measure progress toward the desired outcomes, but should not be the main focus of the strategy. Any targets that are set should be stretching enough in order to deliver the desired outcome. Outcomes should be prioritised in the strategy (with resources made available) to ensure the most important issues are addressed in a timely manner.

We highlight the need for leadership, accountability and enforcement but ...

- Outcomes will not be achieved without effective and coordinated leadership from government and industry. The proposed strategy is unclear about organisational roles and responsibilities, and it does not define overall accountability for delivering the strategy. Overall accountability is important for monitoring, reporting, communicating and ultimately delivering the strategy. Enforcement is important for any mandatory requirements.

We call for a joined-up approach...

- It is important for all relevant government departments and industry bodies to sign-up to the strategy. It is even more important for their roles and responsibilities be clearly outlined in the strategy.
- A review should be undertaken to ensure that there are no conflicts caused by existing legislation, or conflicts across government departments.

We focus on skills and education...

- Many CIC members are in a good position to help deliver the skills and education objectives of the strategy, but the strategy is limited in its overall objectives.
- We believe the strategy presents a unique opportunity to embed sustainability into every aspect of learning, and create closer links to business (e.g. manufacturing, logistics) both in the UK and overseas.

We highlight the need for a communications section in the strategy...

- Communication is a fundamental part of delivering the strategy. Industry communication material should focus on positive (widely agreed) message

that sell the benefits of sustainable construction and promote best practice through the provision of practical advice. Industry and Government should work together to showcase exemplar projects on the international platform. It may also be appropriate to 'name-and-shame' those exercising bad practice.

- Public communication material should promote and celebrate best practice in the industry and raise the profile of UK construction industry both at home and abroad.

We reinforce the need for good quality data and definitions...

- A consistent theme throughout the feedback on each of the targets in the strategy is the need for good quality data from which to benchmark and measure progress. This clarity is important for providing certainty to whoever has to deliver the target.
- Definitions must be workable and consistent across the industry.

Design

- It is important not to use Design Quality Indicators (DQIs) in isolation, but to integrate their use with the BRE Environmental Assessment Method and the Code for Sustainable Homes (and any future codes).
- Robust measurable outcomes must be defined as part of the DQI process in order to design appropriately for sustainability, and for adaptation to climate change.
- The target of 60% of all publicly funded projects over £1million using DQI's should be increased to 100% to incorporate stretch. If resources are an issue to delivering such a challenging target in the short term, this must be addressed according to the priorities set out in the strategy.

Better Regulation

- We believe this strategy offers a good opportunity to bring together fragmented initiatives and legislation.
- Some feedback from members suggests that legislation may not be the main problem; rather the time associated with training and the lack of relevant skills and knowledge. Other feedback suggests that lack of enforcement is the main issue.

Climate change:

- In general there is support for the targets in the strategy but concern as to how they will be achieved. The strategy must include workable definitions (of zero-carbon and carbon neutral for example); and targets must be derived from good quality baseline data.
- There is also a lack of attention to adaptation to climate change in this part of the strategy, and to the existing building stock.
- There is a risk throughout the strategy that focussing on individual targets will divert attention from the more significant issue of clean energy generated at

source (clean coal, carbon sequestration, renewables, nuclear). While this may result in higher energy costs, the CIOB believes that the industry would respond by building more efficient buildings.

Materials:

- It is particularly important for this section of the strategy to acknowledge the 'big picture' international context.
- Construction output around the world is increasing and there is uncertainty about the long term availability of raw materials.
- China and Europe do not have raw materials to cope with large increases in demand. There is likely to be inflationary pressure on material supply in the future driven by availability. This presents an issue of the long term supply that needs to be considered, especially in relation to the delivery of UK public sector projects.
- The availability and cost of materials has a serious impact on contractors on long-term fixed price contracts, resulting in contractors being unwilling to commit to future long-term contracts without significant risk premiums being built into their bids. The problem is most pronounced in longer, more complex projects, such as healthcare, the Olympics, Crossrail, the schools programme, and other large projects that are often in the national interest.
- One way to address this problem is to promote innovation and research and development in the sector. While there is often a view that this is the industry's responsibility, the CIOB believes that there are also important implications for the national economy and for maintaining the UK's competitive advantage.

Comments on innovation:

Introduction

This is a view from a designer in building services. It is positive for the building industry to look at innovation but it is not likely to build innovation upon shaky foundations. There are many areas in construction where our procedures require review and consolidation prior to introducing innovation.

Drivers of Innovation

Some of the current drivers of innovation are government legislation, individual vision, optimum use of resource, reduced construction cost, reduced energy and maintenance cost and the health and safety of those people in construction operation and maintenance.

The innovations that might be expected to come from these drivers are improved use of passive architectural techniques to optimise energy demand, improved use of sustainable materials and systems, decreased wastage of resource, improved budgeting and costing techniques and better build ability/operability leading to improved safety statistics.

Simplified building services design process

A building services design engineer can simplify a building project to four stages;

Concept design – some examples of this work are receiving and understanding a detailed brief, energy strategy, sustainability statement, outline design proposals, budget, programme, safety in design. Very client/design team focused.

Production design – some examples of this work are schedules/drawings for the contract, modularisation, standardisation, pre-fabrication, selecting sustainable and energy efficient equipment and materials, safety in design, controls operation, commissioning strategy, plant replacement strategy. Very design team focused hopefully with construction company input if the form of contract allows.

Construction – some examples of this work are information flow, change control, monitoring quality of materials and workmanship. The success of this stage depends upon a very good design. Very contractor focused.

Commissioning, handover and post-handover – some examples of this work are witnessing the operation of engineering system controls, witnessing the correct establishment of water/air/electricity distribution, checking that the building user knows how to operate the building. This stage should also include staying with the building for a three year period after handover to monitor operation and energy performance. Very client focused.

Opportunities for innovation and barriers.

Concept design

Local Planning Authority requirements for sustainability statements and energy statements at the planning stage have introduced the opportunity for design of low carbon buildings from a very early stage. This has brought the opportunity to innovate with low energy designs using passive architectural techniques and renewable energy sources.

The European Directive for the Performance of Buildings has brought much opportunity to model and understand the energy performance of concept building designs in order to obtain Building regulations approval and gives much greater visual understanding of design proposals for clients through the use of three dimensional models.

There has to be more focus upon the design team definition of the Clients Functional Brief for a building in order to prevent the waste of design team/construction time because proposals and construction do not meet the Clients aspirations. Building services engineers in particular need a broader view of briefing. None of this is new, it exists and needs to be better publicised to clients and designers.

For repeat work the building and management of key advisor/client relationships is taking place and needs measurement of construction cost/time trends to confirm its worth.

The industry still lacks certainty about budget costing particularly for building services. The meeting of client aspirations within established budgets is a continual source of much time wasting and income loss through re-designs.

Production Design

There are opportunities here for designers to engage with suppliers/manufacturers to source energy effective equipment and materials. This opportunity is often limited by the need to maintain the opportunity for competitive supplier tendering but building relationships with the best suppliers can set the benchmark for their competitors.

Prefabrication, standardisation, modularisation all offer opportunities to reduce cost and improve safety and quality. Contractors are leading on this and designers need to ensure that

they are up to speed with all the available techniques such that design time is not wasted in creating proposals that the constructor ultimately changes.

There is a real ongoing need for designers to understand what is required for construction. A survey of contractors might reveal that the quality of production information from designers is declining.

Construction

This is the phase where ideally contractor and designer can agree new materials and installation techniques at the production design stage. Where the form of contract does not allow such interaction at the pre-construction stage there are some difficult barriers to construction innovation eg the contractor's alternative proposals require a full review by the whole team to establish the overall impact on cost, time and design quality. Suffice to say that the alternative proposal is sometimes not properly considered.

There is a real ongoing need for designers to have the experience and confidence to consider innovative construction proposals with the client and team in a risk management environment.

The commissioning of systems, the handover of the building and post-handover work with the end-users.

There remains an opportunity to make these activities a major consideration from the outset of the building design process. Many of the intended innovations in low carbon design and renewable energy sources are worthless unless engineering systems are set up, controlled and measured to check that they deliver the anticipated benefits. Regardless of how good the concepts were, it is how the building works that determines client satisfaction.

There is an opportunity to plan in detail for the commissioning, handover and post handover processes from the project inception. Appointments could include for commissioning/handover management and could allow for designers to revisit the client, to maintain the relationship and give advice upon operation and measure building performance.

Overview

Rather than looking at innovative management/relationship processes the government can perhaps best improve construction performance by recognising that building services input is a major cost and time component in the building process. Building services is a discipline that embraces a need for a very broad range of skills, knowledge and behaviours. Building services is a discipline that still sits outside the understanding of the other construction disciplines and that relationship is often the source of frustration, cost and waste.

There are now less and less people being trained as building services designers at NVQ levels 3, 4 and 5, many are attracted to the industry by the lure of sustainability and come from a broad range of educational disciplines. Few universities now provide building services degrees. As such the aspirations of these recruits are often focused at the concept design stage where a lot of innovation can be inspired but the industry also needs designers with hard engineering knowledge, design production skills and construction experience to turn those concepts into reality.

Companies and institutions accept their responsibility to develop education and training regimes to provide the full range of experience and skills that are needed by the industry and we would value government help with our skills sector council to establish how we can best establish the needs and deliver education and training in the broad range of building services design skills in order to maintain a sound platform from which to develop innovation.

Comments which relate to the identified chapters/paragraphs

Foreword:

Paragraph 5: The aim, firstly for a step change, followed by continuous improvement, will not be achieved unless there are mandatory/regulatory requirements. The current Draft will, hopefully, achieve a steady and slow adoption of sustainability features; it will not result in a step change. The adoption of the proposals by an enthusiastic minority and the altruistic few will not provide the necessary step change. This has been made abundantly clear in respect of energy, where multiple government initiatives for reducing consumption voluntarily, over the last 30 years, have had only a marginal impact. A sequential series of mandatory basic requirements is essential, initially, to provide the step change, leading to the cultural acceptance of sustainability as the norm, which will then create the climate for continuous improvement. Such regulations will need to be simple, clear, and robust with clear, with phased start dates, and CIC would be happy to discuss the relevant areas for the initial sets of regulations.

Paragraph 7: The implication that the Draft is the starting basis for an intelligent discussion between government, industry and NGOs does rather ignore previous initiatives and discussions on sustainability that have been carried out over a number of years.

1 Executive Summary:

1.1 The identification of priority areas is fine but without mandated means for achieving targets the measuring process will only demonstrate how far away the targets remain.

1.2 and 1.3: Accepting the statements as being a summary of the actual situation demonstrates that we have only nibbled at the colossal task, even where some regulatory actions have been implemented. The apparent total disconnect from the Planning system is strange and wrong – all the feedback and evidence indicates that the requirements of the Planning system do have to be compatible with, and integrated into, the detailed sustainability requirements further down the construction process.

1.6 and 1.7: These are the equivalent of ‘motherhood and apple pie’ statements; they reiterate what good design and construction is about, with or without sustainability.

1.8 to 1.10 detail previous initiatives and the run-up work to this consultation. They illustrate, again, how the constant re-iteration of similar requirements, with presentational changes, is always presented as a major step forward. The proposed priorities are still presented as requirements which the industry will be happy to adopt on a voluntary basis – refer to the comments under ‘Foreword: Paragraph 5’.

1.11 to 1.14 clearly show that government departments are all following separate agendas to demonstrate their own sustainability strategy and commitment, in areas for which they have responsibility. This results in unnecessary and sometimes conflicting overlaps which current interdepartmental discussions are unable to prevent.

Sustainability and the needs of climate change cry out for one department to be responsible for an overall coordinated sustainability strategy, with a ‘joined- up’ government policy to ensure that other departments then carry forward their own relevant sections of the strategy. Without this and suitable mandatory requirements to ensure rapid implementation of the various strands of the strategy, there will not be a step change in addressing sustainability. Voluntary means alone, including training and improved skills, (even with existing regulations) will not result in any appreciable change in the relatively short window of opportunity available to us.

Milestones and targets (pp 9 to11) - Topics and Targets: The choice of Topics and the associated targets are one view of how a the subject may be presented and as such are not unreasonable – any representation can be debated at length without necessarily furthering the cause. While the intention is for voluntary adoption the schedule does identify several elements which are to be covered by mandatory and regulatory requirements e.g for timber used, for energy ratings for new homes and building regulation of energy and water use in new homes. The latter is generally welcome as it fits with previous comments on the critical need for regulation if the strategy requirements are to be met. However, the regulatory requirements cover a miniscule proportion of the sustainability spectrum and are presumably quoted because they are about to be implemented, as they are at odds with the statement in 1.14 that “This Strategy is not about introducing new legislation”.

2 Introduction

This chapter is a resume of government and other initiatives related to the construction industry's operations over the last decade and goes much wider than sustainability issues. It offers nothing in sustainability terms that hasn't been said before and simply indicates (2.21) that progress towards the document's sustainability targets will be reviewed biennially in order to reset them.

There is no apparent reference to the means necessary for achieving the targets, other than the various parties working together and being encouraged to adopt the various proposals, with a passing reference to 'better regulation'.

4 Procurement

4.1 to 4.3: Whether 50% of construction projects by value can, or will, have integrated teams etc. by the end of 2007 may be debated, but it doesn't address specific sustainability issues.

Delighted that the government is completing a procurement review by summer 2008, but it does not identify any sustainability issues currently and cannot therefore be of any immediate use to the construction industry's consideration of sustainability and its longer term influence remains to be seen.

The timber target(s) for 2009 and 2015 only formalize what has been an ongoing requirement for some years. The “appropriate documentation” is often already available – checking its authenticity may require a separate monitoring and enforcement agency!

4.14 to 4.34: The content of these paragraphs identifies ongoing work in government and industry which, while interesting, would appear to have little direct connection to the three target areas or their implementation.

In 2006 the RIBA set out its policy with regard to the PFI procurement process (Smart PFI: Position Paper). Our concerns lay not only in the issue of design quality but also wasted money, time and effort. The DBERR's consultation highlights how the theme of client leadership is a key one; and indeed the RIBA is actively working to engage clients. The RIBA Client Design Advisor programme already provides valuable support to clients, advisors often acting as the only interface between the client's design agenda and the rest of the project team.

Sustainable construction requires good design and the RIBA believes that the Government needs to invest further in the funding of the public client after the initial, preparatory stages of procurement. Funding needs to be sufficient to enable proper options appraisals, the preparation of a well developed brief, a client concept design and a robust budget. The RIBA also calls on central and local government to increase the availability and capacity of design and other professional skills for the public sector, and to seek more affective ways of applying

the skills and expertise, such as client design advisors, that already exist. The RIBA believes that professional bodies should also encourage the acquisition of cross-professional skills that reflect the changing reality of PFI design, procurement and construction.

4.3: From 1 April 2009 only timber and timber products originating either from independently verified legal and sustainable sources or from a licensed Forest Law, Enforcement, Governance and Trade (FLEGT) partner will be demanded for use on the Government estate – appropriate documentation will be required to prove it. From 1 April 2009, only legal and sustainable timber would be demanded.

Along with several other members of the United Kingdom Green Building Council, the RIBA feels that the target should be applied forthwith, when the DBERR publishes its final strategy rather than delaying implementation until 2009. As with all aspects of construction, and planning in general, the RIBA feels that the Government should be spearheading progressive policies and accreditation schemes.

We also feel that the Government should be more ambitious in trying to eliminate unsustainable timber from the market rather than focusing solely on a (gradual) phasing out of use on the Government estate alone. There is currently very little incentive for the construction industry to procure sustainable timber for private projects. We feel that there is a chance for the government to take the lead and more actively curb the demand for unsustainable timber, working towards the control of domestic and international suppliers rather than depending on the construction industry to source and regulate such materials.

5 Design

5.1 to 5.3: These are admirable targets with the first and third being wholly within the government's hands – they can be achieved very simply by the government including them in the design brief for every project for which they are responsible. The second item can equally be achieved by private sector clients including the requirements in their project design briefs.

While the inclusion of BREEAM ratings will require designers to consider specific sustainability issues it is perhaps unfortunate that Design targets have been more broadly identified. Why not a series of guides over the next five years on specific issues contained within the BREEAM requirements?

5.4 to 5.28: These paragraphs again describe government's and industry's ongoing activities which are both interesting and devoid of detailed sustainability issue involvement. One might ask why Post-Construction and Post-Occupancy Evaluations couldn't have been raised to Target status - they rank alongside DQIs?

5.1: 60% of all publicly funded or Public Finance Initiative (PFI) projects, with a value in excess of £1 million, to have used the Design Quality Indicators (DQIs) or equivalents by the end of 2008.

The RIBA believes that the marker could be raised from 60% to 100% of all public and PFI projects over the value of one million pounds to have used the Design Quality Indicators. This should be implemented as soon as possible, ideally with the release of the finalised DBERR sustainable construction strategy. The RIBA continues to believe that the public sector should lead the way in terms of sustainability and the environment.

5.2: 20% of all projects, with a value in excess of £1million to have used the Design Quality Indicators and Building Research Establishment Environmental Assessment Method (BREEAM) or equivalents, and achieve an excellent rating, by the end of 2008, (proposed new target for industry).

5.4: Good design is integral to all aspects of sustainable construction and underpins all the sections within this Strategy. It is not an optional extra. Good design is synonymous with sustainable design. No building, public space, infrastructure or place can be considered genuinely well designed if it does not contribute to environmental, social and economic sustainability.

The RIBA is very glad to see the Government taking design so seriously in this consultation. The RIBA has always campaigned for good design principles to be integrated within the planning and construction of projects both large and small. With this in mind, RIBA is concerned that targets that attempt to make construction more sustainable will not be achieved unless important aspects of social sustainability are considered within DBERR's strategy. The social and environmental value of masterplanning must be taken into account. We believe that the performance and quality of single buildings or projects cannot be deemed successful within a vacuum. Infrastructure and social integration are inextricably linked to construction that is truly sustainable.

5.6: Delivering design quality requires strong leadership. Recognizing this, the Government has called for all public bodies with a responsibility for delivering and managing the built environment to appoint a 'design champion'. The Government wants to encourage the appointment of effective design champions throughout industry and Government. The role of a design champion will vary from organisation to organisation, but the purpose remains clear: to provide leadership and motivation, ensuring that every relevant organisation or project has a clear vision and strategy for delivering good design.

In 2005 the RIBA's A Manifesto for Architecture recommended that design champions should be appointed in Regional Development Agencies and local authority cabinets. We stressed that they should be duly empowered to give a clear lead and insist on the importance of good design. We were glad to see our recommendations picked up in the Barker Review of Land Use Planning earlier this year. The report endorsed the appointment of design champions at all levels and recognized the importance of ensuring that they have the necessary skills and experience to benefit the projects they become involved in.

For the RIBA, the key point remains that design champions should have sufficient authority within their organisations to make a difference. Tokenistic labelling is not good enough, and design champions cannot be expected to operate in a vacuum of good design principles in a given organisation or business.

5.8: Post-Construction Evaluation (PCE) and Post-Occupancy Evaluation (POE) are tools which can also be used as indicators of design quality and sustainability.

The RIBA agrees that Post-Construction Evaluation (PCE) and Post-Occupancy Evaluation (POE) are useful and indicative evaluation tools. We feel that the increased promotion of POEs, in particular, would be an effective way to check the social, environmental credentials of a given project. The RIBA also backed Community and Local Government's proposal to implement longer time limits for local authorities to bring prosecutions for breaches of Building Regulations. We strongly believe that a longer time limit would ensure a fairer system for the occupant.

5.11: It is clear that no single sector can address design quality alone. Concerted action is required from the following groups: Government, clients and client advisers, developers, project teams – architects, engineers, planners, procurers, contractors, sub-contractors, materials suppliers, finance managers and professional institutions.

6 Innovation

6.1 to 6.3: We all support innovation, but with the possible exception of 6.3 the topic is applicable to every element of the industry, including sustainability and there is no mention of any particular sustainability issues to which innovation priorities should be applied.

What can be said is that traditionally and generally, any innovative idea which has been researched, developed and trialled successfully on a real project, then takes 10 to 20 years to be adopted across the construction industry.

6.4 to 6.19: It's interesting to see the programmed work over the next two years and encouragement of eco friendly projects, with the hoped for improvement in knowledge transfer. This doesn't, of itself, provide innovative sustainability solutions which the industry can adopt on a target basis.

7 The People Agenda

7.1 to 7.7: There are four Skills and three Health and Safety Targets, but only one even attempts to refer to sustainability. While attempts are constantly made to define more and more topics as being sustainability issues (cf. The Human Rights Act) this section is not, about sustainability issues.

The development of skills is essential if we are to see a dynamic and beneficial relationship between architects and the construction industry. With this in mind the RIBA has recently published a series of guidance documents, known collectively as the RIBA Climate Change Toolkit. The guidance covers latest energy and environmental standards for the main building types (residential, commercial and public) as well as performance simulation software for buildings of different types. It also includes is post-construction performance testing, performance monitoring and evaluation methods and references and links more detailed information. The dissemination of this kind of practical and industry focused information is helping to bridge the gap between the architecture profession and the needs of modern sustainable construction.

Skills and Capacity: As noted in our covering comments there are significant and specific skills implications arising from the strategy which are not reflected in the "People Agenda" section of the strategy, where the action proposed is generic. At a time when the industry's resources are stretched an assessment of the availability of the specific skills needed to implement the strategy and identification of the actions needed to deliver this capacity would be a huge benefit to all stakeholders.

8 Better Regulation and Business Support Simplification

This chapter has no targets and requests feedback and suggestions on government policy areas which BERR are pursuing. These areas do not appear to have any direct connection with sustainability, but see below, and why it should be included and before chapters 9 to 12 is a mystery.

Paragraph 8.1 talks of cutting red tape and regulatory , getting the balance right between regulation and protection and finding more effective ways of designing and delivering protection without increasing costs or deterring compliance. We would all prefer less and better (simple, clear and robust) regulations, but to achieve sustainability targets in an acceptable time scale some regulations are essential, particularly if a step change for instituting suitable solutions is the aim.

If indeed there are an estimated 3000 Business Support Schemes (8.4) they should be decimated, at least.

9 Climate Change

9.1 to 9.9: All very laudable; are they all achievable without some mandatory spur? The further one gets into the document the more one asks whether it was initially to be BERR's sustainability strategy (meeting the government's policy that each department should have one) which has been expanded to encompass recommendations for the construction industry?

9.10 to 9.36: These paragraphs fit into the pattern of previous chapters, describing ongoing and implemented actions of government and industry. There are no identified details of how the targets are to be achieved – the references to mandating the Code for Sustainable Homes requirements and the five year carbon budgets in the Climate Change Bill hardly qualify.

9.2: By 2010 the general level of energy efficiency of residential accommodation in England to be increased by at least 20 percent compared with the general level of such energy efficiency in 2000.

The RIBA is pleased to see the DBERR attempting to tackle the fundamental issue of our existing housing stock within this target of the consultation. There are approximately 25 million domestic buildings in the UK. At current rates of replacement (roughly 1% per year) we will be living in much of the existing housing stock for several generations to come. If we are to make any sizable impact on domestic carbon emissions, it is vital that focus is not only placed on the relatively minimal amount of new housing built, but rather on housing as a whole.

The RIBA would like to see the development of a Code for Sustainable Existing Homes that could work along side the existing Code for Sustainable Homes. How and at what stage such a code could effectively be applied remain the greatest challenges. However, the RIBA is keen to work with all relevant Government departments and other organisations such as the Energy Saving Trust and the Sustainable Development Commission to find a solution that best suits an immensely varied and complicated existing housing stock.

In recent evidence submitted to the CLG Parliamentary Select Committee inquiry on the subject, the RIBA identified a need for a systematic approach, involving a broad range of facilitating measures. First, a mass market needs to be created for the construction methods and technologies needed to retro-fit our housing. In turn, this will need enormous investment in construction skills if the industry is to deliver in terms of helping carbon reduction. We also feel that clear and demonstrative information needs to be disseminated; information highlighting different refurbishments techniques for the various types of houses is greatly needed (the RIBA looks forward to seeing the BRE's forthcoming work in this field). International best practice must also be studied; Germany for instance, has long led in the field of large-scale retro-fitting of existing housing. Other, fiscal incentives must also be considered. An equalisation of what is fundamentally a new-build-biased VAT system along with favourable council tax credits might make it possible to contemplate the target featured in this consultation.

10 Water

10.1 to 10.5: One should not deprecate the targets, which are necessary steps, but they only nibble at the water waste and efficiency problems.

10.6 to 10.35: These paragraphs repeat the pattern of identifying government and industry actions and positions, but seem to have omitted areas which are pertinent. Two are identified below.

Paragraph 10.11 talks of the water companies' responsibilities for promoting conservation, without mentioning the average 25% leakage rate from the company's distribution networks, which the government consultation document on water efficiency of July 2007 admits is unlikely to improve before 2030. Surely this wastage should be a front line target to be addressed immediately?

Paragraph 10.14 refers to the fact that government is committed to regional measures to deal with water scarce areas. These are limited to a sequence of events to be followed when drought conditions are imminent or real. Surely efforts should be made to provide a water grid to prevent such scarcity anywhere in the UK, which has more than ample rainfall? Despite government protestations that regional solutions are cheaper there is financial evidence to refute this.

11 Biodiversity

This chapter is effectively a review of what biodiversity is about, with a proposal for a workshop of interested parties. While many aspects of biodiversity may not be the direct concern of the construction industry it is surprising that the department did not identify any target areas arising from completed work. Surely a target in respect of 'green roofs' would have been one example?

12. Waste & Materials

12.1.1 to 12.1.3 – Waste and 12.2.1 to 12.2.2 – Materials; One should support these targets, although the dates for achievement may be too ambitious. It is virtually impossible to find anyone across the construction industry who does not agree that we waste too much – the art and science of reducing the waste lags behind our desire.

I have no comments on the supporting paragraphs, which seem to be a review of what has been done and what is being done.

13 Delivering the Strategy

Apart from including the industry (in its various guises) under 'Key delivery organisations' the chapter is limited to how government and quasi-government organisations will contribute to the Strategy. Industry may wish to set up working groups with some or all of the 'government agencies'?

14 Monitoring of Achievements

14.1 to 14.5: The target and milestones appear admirable. If the initiatives are not supported by mandatory requirements there will be very little to report in the time scales proposed.

It is appreciated that not all consultees will wish to express an opinion on every question. Where no response is given it will be presumed that consultees do not wish to contribute to the consultation on that specific matter. Where consultees strongly support particular aspects of the guidance please use the comments sections of this form to note that support.

Please note that provision is made throughout this questionnaire for you to provide additional comments. If, however you wish to provide detailed comments on any aspect of the consultation then please append additional materials and supplementary documents, clearly marked and cross referenced to the relevant questions, as necessary.

Thank you for your time.

Please note:

All information in responses, including personal information, may be subject to publication or disclosure under freedom of information legislation. *If a correspondent requests confidentiality, this cannot be guaranteed and will only be possible if considered appropriate under the legislation.* Any such request should explain why confidentiality is necessary. Any automatic confidentiality disclaimer generated by your IT system will not be considered as such a request unless you specifically include a request, with an explanation, in the main text of your response.

Confidential responses will nevertheless be included in any statistical summary of numbers of comments and views expressed, although individuals will not be identified.

Names and addresses may be held in an electronic database of interested parties for the purpose of distributing future consultation documents on similar issues. However, any such details will not be given to any third party.

A summary of responses to this consultation will be published at www.berr.gov.uk

Paper copies will be available on request from:

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