



# The Future of Cement: The Dilemmas of leadership

Summary of the stakeholder workshop held on 29<sup>th</sup> June 2006

facilitated by Dialogue By Design and Forum For The Future

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Our overarching aim is to show that a sustainable future is both possible and desirable. We look forward to working with you to show, in practical ways, how such a future can be brought about.

# The Future of Cement: The Dilemmas of leadership

## 1 Introduction

On 29 June 2006, a number of cement industry stakeholders met to discuss the future of cement and how its production might become more sustainable in the future. This is a summary of the points captured during the discussion. The discussion revolved around a number of dilemmas that are pertinent to both the industry and its stakeholders which are captured in this note.

## 2 Feedback on Update

Prior to the dilemmas, participants were given a summary of the progress that the industry had made since the last stakeholder session a year ago. The BCA has launched its sustainability commitments in the “Working toward sustainability” report. Accordingly, BCA has developed: a carbon strategy, a sustainability accounting model, or business case, and a cement makers’ code; is exploring the benefits of cement end-use in concrete products; and has undertaken to produce annually a corporate responsibility report “*Performance*”, which is now at its third edition. In addition, the EU industry body, CEMBUREAU, is doing further work on health issues.

The following comments were received on the progress update:

- An enquiry about where the Environment Agency (EA) report on cement can be found. It was thought that it was on the EA website
- Social and Environmental Accountability Bill that is being proposed by MPs as an early day motion:
  - What are the companies’ positions on accountability and reporting?
- There are lots of voluntary activities across industry to promote transparency
- Openness in lobbying activity is important and something that stakeholders want to see
- Does reporting make any difference?
  - Openness is critical
  - Warts and all accounts of performance will be vast improvement as at the moment stakeholders feel that they are not getting the truth (there are contradictions)
- There is a question around whether the industry is believed
  - This is a work in progress
  - Companies need to be consistent
  - No HOTLINE to flag up these inconsistencies and the minority groups are not always listened to.

### 3 Dilemma 1: Around the cement industry's carbon strategy

What is the balance between pressure to reduce CO<sub>2</sub> for UK plc and a viable competitive UK cement industry essential to UK construction?

<b>Key dimensions of the problem:</b>	<b>Ways forward:</b>
<ul style="list-style-type: none"> <li>• Uncertainty of timescale of climate change and EU ETS targets</li> <li>• EU ETS timeframes too short for planning feasible investment decisions</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Economic / Political Certainty</u> Clearer economic investment cycles / political systems to reflect need for long term investments</li> <li>• <u>Sector target for post 2012 EU ETS</u> across Europe (to remove inconsistency)               <ul style="list-style-type: none"> <li>○ Or GLOBAL trading system (but no international body – what can World Business Council Sustainable Development do?)</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Global economy, global companies and global competition</li> <li>• Lack of global political will</li> </ul>	<ul style="list-style-type: none"> <li>• Development of technologies that we can then export               <ul style="list-style-type: none"> <li>○ Use Clean Developing Mechanisms</li> </ul> </li> <li>• <u>Collaboration globally to create a level playing field</u></li> </ul>
<ul style="list-style-type: none"> <li>• Self sufficiency v. global imports               <ul style="list-style-type: none"> <li>○ Need for resource security</li> </ul> </li> <li>• Product is more sustainable if local               <ul style="list-style-type: none"> <li>○ Lower transport impact</li> <li>○ CO<sub>2</sub> emissions maintained in UK</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <u>Ensure UK government fights UK corner/ maintains cement manufacturing and market in UK;</u></li> <li>• </li> </ul>
<ul style="list-style-type: none"> <li>• Not technically possible (currently) to reduce CO<sub>2</sub> emissions in production</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Carbon Capture and Storage</u> – but need reassurance that investment worth it and industry still viable – Government needs to act GLOBALLY               <ul style="list-style-type: none"> <li>➡ NB <u>CO<sub>2</sub> market:</u> opportunities to sell through capture and re-carbonation</li> </ul> </li> <li>• Improve <u>building performance</u> <ul style="list-style-type: none"> <li>○ Optimise the use of cement / concrete for <u>thermal insulation</u></li> <li>○ Capture the overall 'C' balance</li> </ul> </li> <li>• <u>Use of alternative fuels</u>, e.g. biomass and other waste derived fuels with nil or reduced Global Warming Potential               <ul style="list-style-type: none"> <li>➡ NB what's the energy balance? Being sure that</li> </ul> </li> </ul>

	<p>making a Greenhouse Gases (GHGs) saving</p> <ul style="list-style-type: none"> <li>➡ NB meat bone meal removes methane too</li> <li>○ Waste must be waste</li> <li>○ Simplification of planning applications / speeding up procedures for obtaining permits</li> <li>○ Ensure that cement remains viable</li> </ul>
<ul style="list-style-type: none"> <li>• Can we capture CO<sub>2</sub> over the life of the product?</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Re – carbonation</u>: explore research on capturing CO<sub>2</sub> in concrete over the life-cycle of the building</li> </ul>
<ul style="list-style-type: none"> <li>• What are others doing e.g. aviation, domestic transport</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Aviation</u> in EU ETS – opportunity or not?</li> </ul>
<ul style="list-style-type: none"> <li>○ Legislative Regulations constrains e.g. Substitute Fuels Protocol</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Proactive lobbying</u> for a clear legislative framework for CO<sub>2</sub> / GHGs reduction ➡ NB opportunity for leadership</li> <li>• <u>Dialogue</u> and mutual collaboration with <u>regulative bodies</u> and other NGOs</li> </ul>
<ul style="list-style-type: none"> <li>• Cement must remain technically viable – to maintain customer confidence</li> </ul>	<ul style="list-style-type: none"> <li>• <u>NISP</u> – national industry symbiosis programme</li> </ul>

## 4 Dilemma 2: Around investing in sustainable construction

How should the cement industry be encouraging the use of good quality and relatively high cost building materials that last for years – rather than lower quality materials that will not last as long but have a lower carbon footprint?

<b>Key dimensions of the problem:</b>	<b>Ways forward:</b>
<ul style="list-style-type: none"> <li>• Do we want to build for the future?               <ul style="list-style-type: none"> <li>○ –Whole Life Cycle / Whole Life Performance approach</li> <li>○ Building Vs usage</li> <li>○ New houses v. old stock</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• More sharing of Whole Life Cycle information and BRE research</li> <li>• Drive for thermal mass in building regulations</li> </ul>
<ul style="list-style-type: none"> <li>• Sustainable building:               <ul style="list-style-type: none"> <li>○ Short-term approaches / mind-set → obstacle for long last/durable buildings</li> <li>○ Quick build desire from the Department for Communities and Local Government</li> <li>○ The wrong incentives</li> <li>○ Purpose of use of buildings may change over their lifetime → obstacle for long last/durable buildings</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Educate the construction industry on the benefits, for example durability and thermal mass</li> <li>• Promotion of buildings that last long and design for future climate change adaptation</li> </ul>
<ul style="list-style-type: none"> <li>• Distance between production and end user market               <ul style="list-style-type: none"> <li>○ Lack of sharing information</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Fill in the construction knowledge gaps</li> <li>• Develop skills to use cement / concrete optimally</li> <li>• Create guarantee process for the use of concrete</li> <li>• Explore vertical integration across the whole construction sector</li> </ul>
<ul style="list-style-type: none"> <li>• Fashion issue: Image of concrete?               <ul style="list-style-type: none"> <li>○ Cold concrete slabs</li> <li>○ e.g. 60's buildings</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Promoting the positive image and exemplars – good demonstration projects</li> <li>• Address marketing, image, and politics: what's the balance?</li> <li>• Design buildings for society – that they want to live in</li> </ul>
<ul style="list-style-type: none"> <li>• Negative message: “good quality <u>but high cost</u> building materials rather than lower quality material with low carbon content ”</li> </ul>	<ul style="list-style-type: none"> <li>• Get over the positive messages from the industry</li> <li>• Make up the lobbying ‘deficit’</li> <li>• Make carbon performance better than competitors</li> <li>• Prove cement / concrete is better for climate adaptation</li> </ul>

	<ul style="list-style-type: none"> <li>• Promote recycling / benefits of use of waste derived materials in concrete mix; design for deconstruction and adaptation</li> <li>• Communicate: don't knock or tackle, do prove</li> <li>• Show it, prove it, share learning</li> </ul>
<ul style="list-style-type: none"> <li>• Dilemma for the whole construction sector, not just cement industry</li> </ul>	<ul style="list-style-type: none"> <li>• Explore vertical integration across the whole construction sector</li> <li>• Building institute for cement and concrete</li> <li>• Join forces and talk as one <ul style="list-style-type: none"> <li>○ work with The Concrete Centre etc,</li> <li>○ Find creative alliances</li> </ul> </li> <li>• Address marketing, image, and politics: what's the balance?</li> <li>• Target Government on its own procurement of construction materials</li> </ul>

## 5 Dilemma 3: Around resolving health issues

How can we agree, manage and fund a study of the health issues around cement production whose results will be accepted by both the industry and its external stakeholders?

### 5.1 What do we need to study?

- Chemical character of the emissions – does it alter before and after burning substitute fuels, etc?
- Particulate emissions – have they changed due to substitute fuels?
- Pathways
- Where does it end up?
- Particulate emissions monitoring – are there occasions when the particulates are higher / lower (rather than average)? Independently verified
- Toxicity levels / effects
  - Chronic and acute effects
- Maintain transparency e.g. ward by ward cancer levels
- Ambient air– not this, but impact from cement works
  - Emission Watch (independent charity monitoring particulate emissions around incinerators and kilns)
  - Personal experience and immediate impacts e.g. dust
- Draw on existing studies and find out what worked etc.
- Study each different substitute fuel...and different processes... and ALL variables
  - ➡ Difficult to analyse – more than 200 chemicals

### 5.2 What is the process?

- Bring together people from different points of view to design a feasible research study
  - Mediated negotiation of scope and objectives of the study
  - Who else needs to be involved e.g. NSCA, Greenpeace
- Agree the questions that need to be answered and the concerns that have to be addressed
  - Find the key nuggets!
- Agree a transparent methodology at every stage and on every aspect
- Overseen by independent and scientifically credible party e.g. Royal Society
- Agree boundaries on variables
- Draw on experience from other industries / previous experience and studies
  - Agree criteria for a reference study – what's impeccable?
  - Ensure credibility of existing study - by independent bodies?
- Individual responsibility from the potential parties continuous beyond study
  - Follow through on social engagement of the results
- Agree what substitute fuels / materials
- Improve existing monitoring
- Agree how you set controls
  - What were all the other factors?
- ➡ Difficult process – considerable time and money