



SDTF/05/49

Report on the Cement Industry's expert stakeholder meeting

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Forum for the Future is a UK-based sustainable development charity working to accelerate the transition to a sustainable way of life. We have partnerships with business, local authorities, regional bodies and universities, working with them to deliver a shared commitment to sustainability. We provide advice and develop partnership work on issues as diverse as climate change, procurement strategies, environmental accounting and the digital divide. We also communicate what we learn with our partners to a wider network of decision-makers and opinion formers and run a number of cutting edge projects engaging with a much wider audience of NGOs, business, higher education and government on key sustainable development challenges.

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1 Introduction

This report captures the discussions from the expert stakeholder forum on cement, held at the Royal Institute of Chartered Surveyors on Wednesday 13th July.

The stakeholder event was part of the British Cement Association's sustainability taskforce, working to improve the social and environmental performance of the cement industry. This initiative builds on the WBCSD work on cement, placing it in a national context and extending the lifecycle analysis of cement upstream to cover the quarrying of raw materials and downstream to consider how it is used.

As part of this work the taskforce has produced an assessment of the societal value of cement, incorporating social and environmental costs and benefits. The meeting was an important step in the development of this analysis and also aimed to get stakeholders views on what leading the way in sustainable development would look like. The aims of the day were:

- To improve the Benefit and Cost Analysis Assessment so that it reflects an appropriate picture of the sustainable development impacts on cement
- To explore what else the Cement industry must consider to ensure that it measurably improves its contribution to sustainable development
- To discuss how the industry can best translate aspirations and potential into operational reality and performance improvement

The assessment assigns monetary values to things like emissions and infrastructure impacts into an analysis of the overall costs and benefits of cement to society. This process enables the industry to focus on its biggest societal costs in sustainability terms and ensures that action is taken to reduce these costs and optimise the benefits. Ultimately this should ensure that the cement industry is maximising its contribution to a sustainable society.

Giving a value to things not normally seen in a financial context is a tricky business and this is very much work in progress. Stakeholder input was critical in ensuring that the approach delivers value for stakeholders and actually improves the performance of the cement industry.

This report is in note form – directly capturing the flip charts taken on the day. All comments are captured for completeness and they are broadly grouped into themes for ease. Where specific actions were discussed the comment is emboldened.

2 Comments on the benefit-cost analysis

2.1 General comments

At the beginning of the day, stakeholders were asked for their general views on the Report. The following comments provide general feedback on the Cement Industry's Benefit-Cost analysis Report.

Balance

- Too focused on benefits ('rosy picture') e.g. A2 use of alternative fuels - a benefit?
- Insufficiently balance (benefits / disbenefits)
- 'Puff' – presented a positive picture
- Positive impression created – prob. needs more balance
- Dis-benefits do not go far enough e.g. health and community
- At what point does the import of cement become more economically viable than UK production?

Boundaries

- Boundaries of industry not identified
 - packing, logistics: both missing
 - and need to be clear about the scope
 - does it include use of alternative materials?
 - what about electricity use?
- **Boundaries** – where do you stop? Logic explained more clearly.
- Concern about the areas that are outside the scope (e.g. outside the industry's. control)
- What about importation of impact?
- Some of downstream activities not included

Methodology

- Be clear about where this methodology has come from. Explain why / how its use is novel.
- Methodology has a lot to offer
- The Pearce Report forms the basis of the largest industry benefits, therefore would like to be comfortable with that
- Some specific areas are included – e.g. transport – in there, but not specified
- Need to be explicit about what is and isn't included
 - e.g. health effects
- Strong UK based prod'n industry
 - NB not reliant on imports – jobs dependent on it.
- Built environment figure? Not high enough?
- A slightly canted viewpoint – some of negatives not addressed
- This model could ultimately influence legislation

Specific feedback on gaps

- Can't ignore imports. The way stuff is made in e.g. China. child labour issues.
- Electricity? Can't ignore it.
- Useful way of highlighting the impacts. But the r/ship downstream will be critical (e.g. to construction industry)
- Regulation is not covered and that is critical as the industry is up against a failure of regulation
- Where would regulation fit in?

- a) creation (from Europe)
- b) compliance and confidence.
- Plus enforcement

The non-financial aspects that are not captured

- SD is not just about the economics eg. nuisance factor articulated as £1/tonne but not able to capture social impact on communities – this needs to be discussed. The monetisation of all impacts will not work for everyone.
- Perception gap eg. communities' experiences
- Reputation and history is not captured
- **Community impacts** – wider H&S impacts on the community

How the report is written

- Difficult to read
- Table nice way to set out the analysis
- Diagram to explain boundaries and also explain the context
- MSc thesis references on p.3 – sounds like Lisa Howe authored the report

2.2 Is this a useful process?

During the discussion the stakeholders were asked whether the report was a useful process. The following comments were captured:

- It doesn't take the industry outside itself ie look at alternatives.
- Useful reflections- interesting numbers/comparisons
- Means to an end – have to compare with other materials
- If this is a way of prioritising long-term action it has to be right. Not sure you can put a value on some stuff
- Interesting read – as a general method has a lot to offer
- Clearly an iterative process
- The discussion with the industry increased my trust, the report did not.

3 Issues (with the report)

Following the general discussion, participants went on to discuss the specific issues/ concerns that they had about the report. The priority issues were:

- Community impacts – wider Health & Safety impacts
- Built environment figure
- Climate change/ energy/ CO2
- Strong UK based prod'n industry is necessary to support industry and jobs (there was no time to discuss this in detail)

3.1 Built environment

- Built environment figure. Reliability of the information. How much certainty is there about the £318 figure? Look for other sources for information.
- No technological substitute for concrete; if don't have concrete then don't have current way of life
- Evaluation techniques:- are they the most up to date? Eg. evaluation of pollutants using "EXTEME" identifies key pollutants
- What about the dis-benefits of construction eg. value of school but not the impact of building, using land, etc
- Are there additional data sources. 1 planet living - WWF
- This is a boundary issue – how far can you go
- Concrete industry is working on some of this eg. pourous painting
- **Act now that these issues are there, don't spend time on calculations**
- Check consistency with other accepted methodologies eg. LCA
- Can you put numbers on the built environment?
- Where are the alternatives = have to explain that this is in the context
- Don't quantify the built environment – make it clear where the boundaries are.
- OR dig down deeper into the built environment figure
- Cant avoid this, but need to challenge SD for alternatives
- Integrate what doing on SD with steel, timber, etc. to find collaborative strategies

3.2 Climate/CO₂/Energy

- Carbon footprint of cement – is there one? (Carbon strategy)
 - look at alternative fuels/ waste materials
 - thermal mass
- Have to use as little E / be as efficient as possible
- CO₂ profile is reducing for UK cement
- Would like to know CO₂ / 1 tonne UK cement
- Electricity use and transport has to be included (be clear).
- **Use the EA / BCA KPIs for measurement/ transparency**
- NB include CO₂ in waste fuel in report (upper/lower figures)
- Cement industry data has to be updated in the BRE env. profiling of other products
- Would far rather buy cement from manufacturers in this country rather than overseas
- NB focus on the benefits of UK cement
- Is your current method of producing cement the only one?
- Beyond 2010 we cannot go on with life as it is.

- WBCSD / Battelle assessment: 20 yr time horizon: they did not see a substitute for cement / cementitious over that time frame; improvements yes.
- C sequestration
- Fuels generate a market for waste

3.3 Social dis-benefits

- This report misses this issue of social dis-benefit
 - A very important issue for the perception of the industry
 - Health aspects are missed. There's a risk that cement will be increasingly challenged on this (like tobacco)
 - broader impacts – higher stacks
 - research into the causal link (not yet there)
- VAST concern (eg cluster busters!) – about incineration, global dimming
YOU CAN'T QUANTIFY THIS
- Effects of plume not dealt with in report
 - **The report needs to acknowledge these concerns/health impacts. (pull the data out, HPA data/expertise)**
 - Perception needs to be reflected, as does experience eg. post-war whitening
 - Can't get hearts and minds behind the industry otherwise
 - **Have to extend H & S (workforce) impacts in the report to the health of communities**
 - How add a cost disbenefit for the people that are worried about the health effects?
 - Meet difference in perceptions and challenges moving forward – the worry factor (difficult to quantify)
 - Not enough data collection around emissions NB EA needs to do this
 - What ought the industry do?:
 - acknowledge these issues and the unknowns, deal with openly and honestly
 - Transparency – need for info on health impacts
 - Health impacts are critical
 - Seek some inputs/ information from EU/international sources eg. US EPA on health outcomes of affected comms. v. those not = no impacts
 - What are the emissions from these kilns – modern kilns have v low/ undetectable emissions
 - Need greater transparency from industry
 - **The report needs to reference this activity (difference in efficiencies – see above)**
 - **2010 vision of the industry as leading the way: community trust**
 - Can we use monitoring costs as a proxy (has to be independent monitoring)?
 - Have to capture the peaks of emissions rather than averages and concentrate on that
 - to provide the reassurance
 - start-ups / breakdowns
 - Joint monitoring group industry/NGOs/public might move the industry forward
 - e.g. give £10m to FoE / Greenpeace to carry out the study
 - e.g. nuclear industry used a joint group of industry and pressure groups which led to a higher degree of belief in the results

4 What does the industry need to do?

The afternoon sessions focused on what needs to happen to make the UK cement industry more sustainable to feed directly into the sustainable development taskforce work. The groups were asked to tackle three questions (based on the morning's discussions) and to brainstorm ideas to address them.

4.1 What innovative ideas would you like to see the UK industry exploring to reach its sustainable vision?

- Investigate alternative transport modes (airships/ pipelines with taps)
- Electricity generation. Wind power
- Dust, noise, smell remove / reduce
- Make cement from demolition waste
- Rethink business case to reflect cement a by-product of waste
- Analogy with steel mini-mills
- Help concrete industry use cement more efficiently – eg better hydration in precast, design
- No chimneys
- One planet philosophy
- Sustainability business parks
- Reuse of customer waste
- Mobile cement plants
- Never exceed, always stick to its permits
- More use of alternative materials, blending them in
- Explore the safe use of recycled construction waste
- Capturing the exhaust gasses
- Dealing with them more sustainably
- Sequestration
- Find a constructive way of using exhaust gasses
- Make better use of waste heat (free district heating)
- Use horizontal kilns!!!
- Pre-heaters
- Line data visible outside the works ie. In the village. It must be understood.
- Instant reporting of exceeding targets
- Online reporting
- Re-carbonisation back into cement
- Recycle/reuse of concrete/ cement
- C₃S to C₂S Silica and performance additives
- Maximise bio-fuels

4.2 What **specific actions** by whom will ensure the UK cement industry “leads the way” on sustainability?

- ENVIRONMENTALLY ACCEPTABLE PRACTICE BY BCA (by Task Force)
 - demonstrate environmental and social acceptability for society
 - wide dissemination of reports
 - third party verification, possibly Sustainable Development Commission
- ENERGY / MATERIAL EFFICIENT. The task force needs to clarify position on electricity and transport and provide backdated data.
- CUSTOMER FOCUS. The task force needs to look at ways of substituting non-renewable resources by waste.
- COMBINATION COMMUNICATION WITH SIMILAR INDUSTRY. (Steel, timber, cement etc coming together to discuss SD and forward strategy.) Task force to liaise with CPA and Pioneer Group to widen the dialogue on SD with other construction products (and how they work together to create greater sustainability)
- “INVESTORS IN PEOPLE”
- BCA (cement industry) TO GAIN TRUST , SUPPORT AND APPROVAL OF LOCAL RESIDENTS. (as first point above)
- BCA (cement industry) ROADSHOW. Has to be participative, consultative.
 - Task force to liaise with waste industry to establish/ agree the most sustainable options for waste.
 - Task force to feed into government SD initiatives, task forces and stakeholder groups
 - Taskforce to formalise stakeholder groups.
- STRONGER LINKS WITH H&S, AUTHORITIES
- DEVELOP METHODOLOGY/ PROCESS FOR HEALTH ASSESSMENTS FOR CEMENT INDUSTRY ISSUES w/HPA

4.3 How should this process (ie the SD taskforce) continue and develop?

- Will a summary of today be sent to us?
- Confirm process is more than reports (see additional items below)
- Circulation of documentation eg. carbon strategy
- Communication strategy – sustainable strategy for communications ie infrequent meetings
- Join up thinking with other research incl. Post-graduate
- Who is the Task Force (keep as industry now .. like minded people ... but gradually expand the ‘circle’)
- Revise the existing doc. (quite a bit) then – Further stakeholder dialogue (who should they be? *See below*)
- Join up with WBCSD
- More work on ‘health’ issues
- Fit with the new UK SD Strategy and New CODE and recently announced Sustainable Construction Strategy
- Report (snapshot) captures situation TODAY... expand this to capture changes for the future – say 20 years (brief)

4.4 Additional ideas/ actions

- Validation of data, factors, assumptions
- Expand dialogues eg health dept./agencies, suppliers, users, customers, equipment suppliers
- Use as model and invitation to other industry
- Fill in the blanks – supply chain impacts (engage with end users)
- Include product stewardship issues
- Identify the boundaries and explain them
- Continue to listen
- Actions, milestones, performance review following the report – sector action plan
- Timeframe for actions
- Review list of impacts in the report, eg. health, public perception
- Stimulate academic development (internal and external to industry)
- Entering into dialogue with other countries
- Ensuring good governance in the cement industry

5 Other Stakeholders

There was some discussion of which stakeholders should be involved in further discussions. These groups were identified:

Greenpeace
 FoE
 Steel
 Timber
 Community members (NB balance)
 Economics / think tanks (eg PSE)
 Waste industry
 Research / academics – plus health
 Architects / designers
 Construction procurement

It was noted that many of these groups were invited to take part in the dialogue but had been unable/ chosen not to participate.

6 Leading the way

Finally, stakeholders were asked to give their view on what 'leading the way' looks like for the UK cement industry in terms of sustainable development.

- Having an open debate – today shows leadership. Involving more people / wider stakeholders.
- Publicly embrace some innovation ideas (eg. mobile cement works) – big ultimate goals. (Paradigm shift! and materials). Eg. closed loop heating, community driven, waste management. (Not about making cement– about society / community benefits)
- Honest and open – diff. Issues / discomfort
- HPA link – development techniques/ health assessment (or DOH)
- More two way comms and participation.
- Ext. validation of figures eg. SDC – jointly agreed/endorsed by FoE
- Need to develop transparency and trust amongst the public – reporting/ verification 'us' a key part of this
- A longer-term vision of a sustainable industry.

7 Feedback

TASK FORCE

This meeting has been

Not at all useful _____ Very useful

OTHER STAKEHOLDERS

This meeting has been

Not at all useful _____ Very useful

Additional comments about the Benefits and Cost Analysis document.

Paragraph/Appendix	Comments
<i>M. Duttan</i> App. 7,8,9	Check for potential double-counting. E.g. materials that are now waste, were once extracted as raw materials themselves, with associated embodied environmental burdens.
App. 8	Is landfill tax a good policy? If it is representative of environmental costs. Not sure it is. Tax instruments tend to be blunt tools, to change behaviour rather than reflect environmental burdens.
<i>Denis Higgins, CSMA</i> General	The UK Cement industry uses about 2000 million KWh of electricity per annum. Is it acceptable to totally ignore this issue or should it be included under the 'costs' of production.
App. 9 & 6	In Appendix 9, factors 3 and 5 explain that use of alternative (waste) fuels can be considered as 'carbon neutral', with the CO ₂ emissions from burning them being ignored. An alternative approach is to take their CO ₂ emissions into account. Consequently in App. 9, under CO ₂ avoided, there appears a 'lower' value of '0' and a 'higher' value of 479,903 tonnes of CO ₂ . In Appendix 6, the tonnes of CO ₂ associated with the alternative fuels, is not included. It would be justifiable to omit it from the 'lower value', but it should be included under the 'higher value'.
Appendices	The basis for selecting the 'mid' value is not explained (except for CO ₂ in Appendix 9). Generally, the 'mid' value is much closer to the 'lower value' than the 'higher value' (except for landfill tax). Without a justification, it might be suggested that the 'mid' values are not 'middle' but deliberately selected on the low side.

Cement Industry Sustainable Development Programme

Waste used as alternative fuels

1. Large amounts of the alternative fuels used in cement manufacture are low flash point liquids and are classed as Hazardous wastes. These wastes cannot be displaced from landfill as they are not acceptable for landfill. Some sludges, solids and tars have been displaced from landfill, perhaps 30,000 tons/annum. The remainder has been displaced from High Temperature incineration which is considerably more expensive than landfill.
2. The current UK installed capacity for High Temperature incineration is circa 90,000 tons/annum and I suspect that it is at relatively high utilisation with little spare capacity.
3. The cement industry has thus helped the UK avoid building 3-4 new High Temperature Incinerators in the UK. In my opinion it would have been virtually impossible to gain permission to construct any new incinerator capacity.
4. SRM, who are the major supplier of alternative fuels in the UK, have circa 200 employees directly involved in the manufacture of the fuel.
5. Having a very cost effective means of disposing of waste by conversion to fuel has an enormous benefit to the solvent recycling industry. Many solvents cannot be economically recycled if the cost of disposal of the residues is too great, we can only sell recovered solvents at 70 – 80 % of the cost of virgin. This cost saving feeds back to literally thousands of UK manufacturing companies.
6. The forthcoming WID regulations will see a further loss in capacity for the UK for disposing of organic waste and the cement operators will be under increased pressure to assist as they are or can be WID compliant.