



## **Introduction**

### **1. The UK Cement Industry**

The British Cement Association is the trade and research organisation that represents the interests of the United Kingdom's cement industry in its relations with Her Majesty's Government, the European Union and relevant organisations in the United Kingdom. The members of the BCA (Buxton Lime Industries, Castle Cement, Lafarge Cement UK, Cemex) are the major domestic manufacturers of Portland Cement producing over 90% of the cement sold in the UK. Climate change services are supplied to Quinn Cement by BCA.

Energy represents an ever escalating component of the variable costs of cement manufacture (now well in excess of 35%) and it is therefore a primary concern of the industry to take all cost effective measures to improve energy efficiency and thereby reduce its emissions of carbon dioxide.

Through their parent companies, Lafarge Cement UK, Castle Cement, and CEMEX UK Cement are committed to carbon reductions through the World Business Council for Sustainable Development Cement Sustainability Initiative, (WBCSD CSI). In addition, Buxton Lime Industries has undertaken to adopt the commitments within the WBCSD CSI.

### **2. Goals and Targets**

Importantly, the emissions projections recognise that the UK is well on target to meet its Kyoto commitment and as such does not need to take drastic measures in Phase II. To ensure equity with the cement industry colleagues in mainland Europe we urge the UK Government to replace the aspirational goal of -20% CO<sub>2</sub> by 2010 with the UK Kyoto agreed improvement of 12.5% when developing the Phase II NAP. Alternatively, Government's aspirations could be modified to meet the 20% goal by 2012, consistent with Kyoto and by reducing all greenhouse gases not just CO<sub>2</sub>. It is also important to point out that emissions from the UK Cement Industry are already more than 20% below the 1990 level and that in accordance with the CCL agreements the industry has already committed to meeting targets on fuel efficiency and waste derived fuel use, demonstrating the cement industry's commitment to climate change targets and recycling targets and show that further caps on CO<sub>2</sub> emissions are not necessary.

### **3. DUKES data**

The Dti energy projections are based on assumptions in the Digest of UK Energy Statistics (DUKES). Following a meeting with NETCEN the BCA discovered that significant errors existed in the historical information contained within DUKES, particularly in relation to fuel mix. The NETCEN/DUKES data contained a high proportion of gas use from the minerals sector, which resulted in an incorrect top down distribution of gas usage to the cement sector. The BCA consequently supplied Dti with corrected data. However, BCA have not received confirmation that the DUKES data have been correctly modified, although comments in the



OEF report<sup>1</sup> (p37) indicate that at least 2003 and 2004 data have been updated. It is important to correct this base data because any CO<sub>2</sub> emission projections based upon a high gas use could result in a lower projected emission due to the comparative difference between gas and coal/petcoke, the primary fuels used by the cement sector. We therefore ask Government to provide BCA with the historic and projected fuel mix assumptions for checking.

#### **4. OEF/CC Baseline Emission DATA**

The baseline emissions for the cement sector for 2002 and 2003 used in the projection work by OEF and CC were incorrect. The emissions were omitted for Cemex's Rugby installation and BLI's Tunstead installation for 2002 and for BLI's Tunstead installation for 2003. These errors have been acknowledged by DTI and OEF/CC have re-run their projections, refer to **Annex I**. Since 2003 three new kilns have been commissioned namely BLI's Tunstead kiln, Quinn's Derrylin kiln and Castle's new Padeswood kiln. In addition to this Cemex's new Rugby kiln has completed commissioning. This is a significant increase in capacity, which supports the revised percentage growth predictions stated in **Annex I**.

#### **5. Sector Classification**

We were pleased to see that the cement sector has been modelled at the 'EU ETS Directive industry sub heading level' and that alternatives detailed in the ILEX report<sup>2</sup> were not pursued. It is appropriate that the cement industry emissions are modelled on the basis of output due to the inextricable link between output and carbon dioxide emissions.

#### **6. Sub-sector growth assumptions**

The UK cement sector has seen the restarting of a cement kiln in N. Ireland. This kiln is situated close to the border with the Republic of Ireland and part of the kiln production exported to the Republic. In both Northern Ireland and the Republic of Ireland the growth rates are significantly higher than the in UK. We believe that this change of situation needs to be taken into account in the growth of the sector.

The cement sector output growth provided in the OEF report (p14) estimates an 8% growth between 2008 and 2012, which is consistent with the information supplied by BCA; however the associated process emissions projections (p43) appear to show only a 6.9% growth in process emissions over the same period. As BCA has stated in previous consultation responses we do not believe that any reduction in process emissions should be applied to EU ETS allocations and associated projections.

In addition, the combustion emissions (according to the text in section 5.1) have received an adjustment of 6% between 2002-2010. The data in Table 5.1 correctly illustrates that around 40% of the emissions from the cement sector

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<sup>1</sup> Oxford Economic Forecasting, the Carbon Consortium - *Research on Output Growth Rates and Carbon Dioxide Emissions of the Industrial Sectors of EU ETS*. February 2006

<sup>2</sup> ILEX Energy Consulting - *EU ETS Phase II: Sector Classification* August 2005



comes from the combustion process. If for example, a 6% reduction factor is applied to cement sector emissions then this is equivalent to 15% reduction on the reducible cement industry emissions see **Figure 1**. We are unclear on how the 6% figure has been derived because the FES/Carbon Consortium report concerning abatement potential<sup>3</sup> states that a 0.3 to 0.5% reduction is possible for fuel emissions which is significantly lower than 6% factor applied by OEF. We would welcome further information on the origin of the 6% reduction factor. If the 6% reduction factor has been derived using climate change agreement data held by FES then it is not appropriate for UEP purposes. The cement sector climate change agreement targets are based on increases in waste derived alternative fuel use which are of course considered carbon neutral under the CCA scheme in contrast to EU ETS.

Importantly, if the projected Phase II average annual emissions (corrected for baseline emissions) are used in the phase II allocation process then no further sector reduction should be applied on the basis that an improvement in combustion efficiency is already included in the projected emission.

**Figure 1**

Impact of 6% UEP efficiency factor on an example installation		
<b>Example installation</b>		
400,000	tonnes CO <sub>2</sub> combustion	
600,000	tonnes CO <sub>2</sub> process	
1,000,000	tonnes CO <sub>2</sub> total	
<b>Example installation with 6% efficiency reduction</b>		
340,000	tonnes CO <sub>2</sub> combustion	(reduction of 6% on whole emission = 15% on combustion)
600,000	tonnes CO <sub>2</sub> process	
940,000	tonnes CO <sub>2</sub> total	
60,000 tonnes reduction		
6 % overall reduction		
<b>15 % reduction on reducible combustion emissions</b>		

**7. Other sectors**

We are disappointed to discover that the UEP does not include emissions projections for the aviation sector. BCA has made representations to Government concerning the potential impact from the aviation sector on the EU ETS industrial sectors. It would be useful if the UEP included emissions from aviation so that the

<sup>3</sup> FES and Carbon Consortium – *Industrial Sector Carbon Dioxide, July 2005*



full impact of the aviation sector on manufactures can be assessed without relying upon 'Russian hot air' as concluded in the ICF report<sup>4</sup>.

## **8. Consultation Questions**

BCA has the following responses with regard to the three consultation questions.

### Annex 1 – Consultation Questions

Consultation Paper on the EU ETS Phase II CO<sub>2</sub> Emissions Projections

Please address the following questions when responding to this consultation.

*Q1: Do you have any comments on the assumptions underpinning the emissions projections presented for your sector? Please comment under the following headings, if relevant.*

#### *Fuel price assumptions*

BCA believe that the fuel price assumptions in table 6 appear to be low for the period 2010 to 2020. There is the assumption that prices will reduce but this is dependent on availability and political stability of the regions supplying oil and gas.

#### *Other specific modelling assumptions*

No comment

#### *c) Output forecasts*

BCA agrees with the revised output forecast by OEF/CC

#### *d) Energy intensity improvements*

BCA do not agree with the proposed 6% improvement in fuel SEC proposed by OEF. This is significantly higher than the abatement identified by FES/CC in their joint report on possible abatement<sup>5</sup>

#### *e) Other*

No comment

*Q2: Do you have any comments on the assumptions underpinning the emissions projections presented for other sectors?*

No comment

*Q3 What proportion of the projected emissions for your sector do you think relates to new entrants that will be covered by the scheme and that are not currently operational?*

All expected new entrants will be commissioned in phase I.

### Annex 2 –Consultation Response Form

Consultation Paper on the EU ETS Phase II CO<sub>2</sub> Emissions Projections

Please include the following information with your consultation response.

The closing date for this consultation is 13th April 2006

Contact name:

Richard Leese

Telephone number:

01276 608700

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<sup>4</sup> ICF Consulting – *Including Aviation into the EU ETS: Impact on EU Allowance Prices*. February 2006

<sup>5</sup> FES and Carbon Consortium – *Industrial Sector Carbon Dioxide*, July 2005

**British Cement Association**

Comments on

**“EU ETS Phase II CO<sub>2</sub> emissions Projections”**



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Organisation and address:

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Trade association(s) where applicable: As above

**British Cement Association**

Comments on

**"EU ETS Phase II CO<sub>2</sub> emissions Projections"**



## Annex I

**Jim**

**Rushworth** To: "Ackrill Alice \Miss A)" <Alice.Ackrill@dti.gsi.gov.uk>@LAFARGEHUB  
31/03/2006 cc: Ken.Fletcher@carbonconsortium.co.uk, richard.boarder@castlecement.com,  
12:40 RLeese@BCA.org.uk, arnoldgriffith.lewis@cemex.com,  
dpocklington@bca.org.uk, chris.slavin@tarmac.co.uk, Murray  
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Fintan.Coyle@quinn-group.com, mcasey@bca.org.uk,  
martyn.kenny@tarmac.co.uk  
Subject: Re: Revised Cement emissions projections

Alice,

Thank you for enclosing the revised emissions projections for the cement sector. With reference to your comment below, the emissions for 2003 for BLI were verified together with the 2002 emissions and a report was submitted to DEFRA. A copy can be forwarded to you if required. The comment by Richard Leese only referred to the 2003 cement tonnage figure from CCA not being verified.

Regards

Jim Rushworth  
National Energy Manager  
Mobile: 07802933183, Mobex 719664  
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## Annex I Cont.

"Ackrill Alice (Miss A)"

<Alice.Ackrill@dti.gsi.gov.uk> To: <Jim.Rushworth@LafargeCement.co.uk>  
cc: <Ken.Fletcher@carbonconsortium.co.uk>  
31/03/2006 12:00 Subject: Revsied Cement emissions projections

Dear Jim,

Please find attached revised emissions projections for the Cement sector, based on adjusted 2002 and 2003 baselines.

These are provisional, to the extent that all the consultation projections are provisional, and subject to review after Easter on the basis of consultation responses etc.

The figures supplied here use the 2003 Tunstead BLI figure. I saw Richard Leese's e-mail regarding the Cement figures. Please note that we cannot use unverified data for baseline adjustment, and verification would be required rather soon, in order to feed into final projections e.g. by 5 May. I suggest that either a VO is supplied by 5 May, or we can re-apply the 2002 emissions figure for the site to the 2003 base year (difference about 7k tonnes). This would be one of the changes made when the projections figures are revised, after consultation response analysis etc, in May.

Best wishes,

<<Cement revised figures 31 March.xls>>

Alice

Alice Ackrill

Energy Strategy Unit

DTI

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## Annex I Cont.



Cement revised figures 31 March.xls

Cement EU ETS sector projections, emissions baselines revised

	2002	2003	2005	2008	2012	AVG Ph II	2010 SEC change against 2002 - OEF	0.94	-6%
Combustion emissions, OEF aligned	4,118	4,179	4,390	4,544	4,612	4,595			
Process emissions	5,805	5,920	6,152	6,659	7,121	6,902		ENUSIM	1.01 1%
Total emissions	9,923	10,099	10,542	11,203	11,732	11,497		Implied structural change	-7%

Base years revised to include Tunstead BLI emissions & Rugby 2002 emissions, and Rugby allocation (rather than 2003 emissions)

Please see e-mail regarding the 2003 Tunstead emissions that are not verified