



## **Pre-legislative scrutiny of the Draft Climate Change Bill**

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### **EXECUTIVE SUMMARY**

- 1.** Long-term greenhouse gas (not just CO<sub>2</sub>) targets are needed to address climate change and give all aspects of the economy certainty over policy goals.
- 2.** The climate change bill targets should include aviation and shipping to ensure that all sectors contribute to climate change mitigation
- 3.** Significant carbon dioxide reduction has already been delivered in the UK cement industry and with its carbon strategy the UK cement industry is aiming for further savings. Short to medium term CO<sub>2</sub> reductions will be relatively small. Larger savings could only be achieved through CCS (carbon capture and storage) and this would be dependant on a pipeline infrastructure being put in place by Government and the ability to pass the additional cost of capture through customers. These can only be made with the correct regulatory and market frameworks where new investment is not penalised or hampered.
- 4.** Carbon budgeting is an appropriate approach and budget periods should provide clear detail of sectoral contribution for budget periods and detail should be released providing at least 15 year horizons.
- 5.** Industries should not be expected to reduce emissions beyond their abatement potential. Additionally, product life cycles and whole building performance should be taken into account when designing schemes and setting targets.
- 6.** International clean development mechanisms could be supplemented using domestic project mechanisms. There should not be a limit on the use of flexible mechanism credits, either in the EU ETS traded sector or for use against the national target; there should be equivalence between the two systems
- 7.** Banking is essential in order to manage any budget correctly. It will also encourage early action and provide a 'buffer' in the following target period. Although, BCA agree that borrowing should be limited to 1%.
- 8.** The inclusion of enabling powers could lead to further trading schemes. This could add more complexities in an already complex legislative framework. In order that the UK is a model for other member states the overlapping climate change policy measures need to be reviewed and rationalised.
- 9.** The UK should also take a lead in developing a global trading scheme. International agreement to ensure that UK industry is not unduly affected by the European regional or national approach is therefore necessary for industries that are subject to international competition such as cement. A global CO<sub>2</sub> market will ensure that there is a level playing field and ensure all citizens contribute to address a global problem. Transitional arrangements could be put in place in the interim toward a global trading system.



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### **Climate Change policy and the UK Cement industry**

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 (Castle Cement, Lafarge Cement UK, CEMEX UK Cement and Tarmac, Buxton Lime and Cement) are the major domestic manufacturers of Portland Cement producing over 90% of the cement sold in the UK. Additionally, BCA supplies services concerning climate change issues to Quinn Cement.

2. Energy represents an increasing proportion of the variable costs of cement manufacture (>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.

3. The cement industry supports the principle of emissions trading. Through their parent companies, Lafarge Cement UK, Castle Cement, and CEMEX are committed to carbon reductions through the World Business Council for Sustainable Development Cement Sustainability Initiative, (WBCSD CSI). In addition, Tarmac, Buxton Lime and Cement has undertaken to adopt the commitments within the WBCSD CSI.

### **4. Specific Inquiry Issues**

#### **4.1. Targets**

4.2. Importantly, recently published 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 order to show leadership on climate change. However, long-term climate change targets are necessary in order to address the most important environmental issue facing society. Unilateral action by the UK Government will damage the UK economy in the long term and as such multilateral long-term action is required so that all contributors to climate change form part of its mitigation. Government should commit to regular review of its 'go it alone' policy on climate change targets to ensure that UK businesses, which operate in internationally competitive markets, are not unduly affected by UK climate change policy.

4.3. Although the UK contribution to global GHG reduction is important, it is also critical for business certainty that long term targets are established with interim goals. However, care should be taken not to damage the UK economy in the short term. Ironically, the UK could achieve many of its climate change targets by displacing manufacturing industry to non-carbon constrained economies. For example third party imports of cement have been steadily increasing over recent years; Cembureau (European Cement Association) has calculated that the transport of cement imported into Europe can add 10% additional carbon dioxide to 1 tonne of cement. These additional emissions would not appear in the UK



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National Greenhouse Gas Inventory showing domestic targets are being met but the environment as a whole would be worse.

4.4. The Government proposed targets are ambitious and will need action from all sectors of UK society. For this reason it does not follow that aviation and shipping emissions should be excluded from the targets in the Draft Climate Change Bill because 'limited action' will only result in 'limited success'.

4.5. It is also important to point out that emissions from the UK Cement Industry are already more than 28% below the 1990 level and that in accordance with the CCA 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 and waste recovery targets. This early action should be noted when the consideration is given to the areas of the economy that can potentially contribute to the savings needed by 2020 and 2050.

4.6. Global warming is a function of all greenhouse gases. Critically, the UK should not only focus its attention on CO<sub>2</sub> because there is the danger of ignoring other, more damaging, gases. The conversion of GHG (greenhouse gas) releases into CO<sub>2</sub>e (CO<sub>2</sub>equivalent) is well understood and as such the Government should base its climate change targets on all GHGs. The draft climate change bill should be amended to consider all GHGs.

### **4.7. Carbon Budgeting**

4.8. Five year carbon budgets are useful for management purposes, but for industrial certainty longer term planning is needed. In an industry such as cement five years is very short, where it takes around 7 years to design, build and gain the necessary permits for a kiln that will then operate for around 30 years. Consequently three budget periods of five years each should be the minimum horizon for the climate change bill.

4.9. For effective carbon budgeting and to provide sufficient certainty for industry and other sectors of the economy, the carbon budgets should not just exist as a national cap/target, rather they should include a breakdown of where the emissions reductions are expected to come from i.e. it is important to know the contribution by the traded (EU ETS)/non-traded sectors in sufficient detail that industrial sectors such as steel, cement, glass etc can effectively plan.

4.10. Consequently the climate change bill should place a requirement on Government to update annually projections/targets for the emissions from all sectors of the economy, through to the 2020 and 2050 time horizons.

4.11. However, flexibility in the system is essential in order to adapt to an environmental issue that will demand significant adaptation in future years. As such the budgets should be subject to regular review and adjustment.

4.12. Climate change is a global issue and the use of flexible mechanisms will allow the climate change challenge to be addressed in the most cost effective areas. There should not be a limit on the use of flexible mechanism credits, either in the



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EU ETS traded sector or for use against the national target; there should be equivalence between the two systems.

4.13. However, domestic action is also necessary and domestic projects should be promoted. In the cement sector the climate change agreements promote the use of alternative waste derived fuels, but the CCAs have a limited life and new systems are needed to promote alternative fuel use. Domestic projects could be one way of helping to shift the use away from fossil fuels toward alternatives. In doing so, the emissions from landfill sites and incinerators, which are not part of the EU ETS, will be avoided

4.14. Banking is essential in order to manage any budget correctly. It will also encourage early action and provide a ‘buffer’ in the following target period. Although, BCA agree that borrowing should be limited to 1%. This will ensure that the budget cannot be exploited for party political reasons and allow time for policy adjustment.

### **4.15. Adaptation**

4.16. All countries and all industries will need to adapt to climate change. The cement industry has good potential for the development of low carbon technologies but will need Governmental assistance. There is a role for government in supporting research to accelerate the development of new carbon abatement technologies, whether in research institutions or private industry. The cement industry is committed to a clear path of carbon dioxide reduction<sup>1</sup> and has begun to investigate the opportunity for Carbon Capture and Storage (CCS). At present research into CCS is dominated by the Electricity Supply Industry (ESI) and oil companies. As one of the largest single point emitters of carbon dioxide with a higher carbon dioxide concentration in the exhaust gasses than other industries the cement industry provides an ideal opportunity for CCS research. Government should do more collaborative research to investigate CCS options for industrial emitters such as the cement industry and not concentrate its research funding on the ESI and oil sectors. The value of this work would be to ensure that the UK becomes a world leader in CCS. This would allow the export of technologies and knowledge to assist developing countries adapt to climate change.

4.17. In addition to encouraging the use of novel technologies such as CCS and promoting a greater use of renewable and waste derived energy sources, there is still plenty of scope for the Government to capitalise on energy saving improvements in buildings, especially in the field of *thermal mass*. Thermal mass is a term used to describe the ability of a material to absorb and retain heat. It can be used to good effect in the fabric of a building by allowing it to absorb excess heat gains during the day and subsequently releasing them at night with the aid of

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<sup>1</sup> Working Towards Sustainability – a report from the UK cement industry on its progress towards sustainability



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natural or mechanical ventilation, this is particularly relevant in a warming climate. This process has the effect of moderating the temperature swing within the building and lowering the peak temperatures experienced during the summer by approximately 3°C<sup>2</sup>. The use of thermal mass techniques can mitigate the use of energy consuming techniques such as air conditioning.

4.18. Traditional masonry built houses and larger buildings incorporating concrete elements provide a high a level of thermal mass and perform particularly well. For example, the energy consumption of a naturally ventilated high thermal mass office is typically about half that associated with a modern, good practice air conditioned office such as Building Type Three described in Econ 19<sup>3</sup>. This is particularly important given the recent findings of research undertaken by Arup and commissioned by DTI, which highlights the key role that thermal mass is set to play in minimising overheating and helping avoid air conditioning as climate change drives up temperatures. Predicted changes in the UK climate, indicate that average annual temperatures are likely to increase by 2°C to 3.5°C this century<sup>4</sup>. This will result in warmer summers and increase the demand for energy intensive air conditioning systems. To counter this, the exploitation of thermal mass in building design could make a useful contribution in preventing growth in this area. As the operation of buildings account for a large proportion of UK energy use, even a small improvement in this sector will translate into significant savings in both energy and CO<sub>2</sub> emissions.

4.19. As the largest procurer of construction industry services, Government is in a privileged position to set the benchmark for sustainable construction projects for schools, hospitals, other public buildings, as well as transport infrastructure projects. Setting benchmarks in the built environment that can be exported to developing nations will signal the UK as a leader in climate change issues. These too should not be short term solutions, but look to the longer term and be based on whole life performance not just initial or lowest cost. The same principles should be extended to local government. The climate change bill could include measures for Government to address the whole life performance of buildings.

### **4.20. Committee on climate change**

4.21. BCA agrees that an independent body should be set up to oversee the carbon budget. The independent committee on climate change should include a range of representatives of stakeholder groups and experts. Industry should be well represented because industry experts will be able to provide crucial information on abatement potential of industrial sectors that will be contributing significantly to the reduction targets.

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<sup>2</sup> Building Research Establishment. Information paper IP6/01. Modelling the performance of thermal mass. N Barnard, P Concannon, Denise Jaunzens. April 2001. 12 pp.

<sup>3</sup> Energy Consumption Guide 19. Energy Use in Offices. Best Practice Programme. 2003

<sup>4</sup> Climate Change Scenarios for the United Kingdom. The UKCIP02 Briefing Report. April 2002



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4.22. To ensure that the Committee can function effectively its tenure must last at least one or two budget periods 5-10 years. This will make sure that a level of consistency is delivered within the longer term target horizons.

4.23. In devising emission reduction targets the Committee will need to consider the balance of effort carefully. Industry has made significant advances in the area of CO<sub>2</sub> reduction and as such greater emphasis now needs to be placed upon the domestic and transport sectors.

### **4.24. Enabling powers**

4.25. The enabling powers that allow the Secretary of State to establish greenhouse gas emission trading schemes by means of secondary legislation should be used with caution. At present the CCA and EU ETS are directed towards the same goals and provide a clear example of the "double banking", contrary to the EU and UK aim of "Better Regulation". This was highlighted by BCA in its response to the Hampton and Davison enquiries. These two trading schemes are incompatible, place burden on industry, and generate carbon credits that require unnecessary double accounting arrangements. The advent of additional GHG trading schemes, such as the proposed Energy Performance Commitment could further add complexities in an already complex legislative framework. It is particularly important that the proposed EPC, that is intended to capture emissions from non-energy intensive commercial uses, does actually target them specifically and avoids capture of energy intensives already contributing significantly to climate change mitigation. In order that the UK is a model for other member states the overlapping climate change policy measures need to be reviewed and rationalised.

### **4.26. International implications**

4.27. The UK should also take a lead in developing a global trading scheme. International agreement is necessary to ensure that UK industry is not unduly affected by the European regional approach particularly for industries that are subject to international competition such as cement. A global CO<sub>2</sub> market will ensure that there is a level playing field and ensure all citizens contribute to address a global problem.

4.28. Until the arrival of a global scheme the UK should protect the interests of the UK economy by advocating EU border tax adjustments on products arriving from non-carbon constrained economies. Border tax adjustment will propagate the transition to a global trading system more quickly in a field of the environment where speed of action is vitally important. Border tax adjustment will also minimise the amount of 'carbon leakage' due to production shifts from the UK to other countries.



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4.29. The UK cement industry is mainly owned by large multinational companies and key investment decisions in the cement industry are generally taken outside of the UK. If the supply of cement from developing countries is not subject to the same pressures to address climate change as the UK then investment (and emissions) will be displaced. This is one example counter to the validity of the Government's view that the Bill will act as an effective example to drive international climate change policy post-2012.