

Holcim Position Paper on Climate Change:

5. Allowance Allocation to the Cement Sector for 2008-12

<p>Common interest</p>	<p>The cement sector is the second largest activity covered by the EU ETS, after electric power and heat. Based on cost of CO₂ per unit of sales revenue, cement manufacturing is also the second most financially affected activity, after lime production.</p> <p>The cement sector is important to the success of the ETS. At the same time, the effectiveness of the ETS is important to the economic viability of the European cement sector.</p> <p>It is thus in the common interest of both the authorities and cement industry to make the system more effective and efficient.</p>
<p>Drivers for reduction</p>	<p>All direct emissions originate from clinker manufacture, a basic constituent of cement. About 60% of emissions (of stationary sources) are process-related to the decarbonisation of limestone. The remainder is fuel-related.</p> <p>The cement industry has three technological options to reduce emissions:</p> <ol style="list-style-type: none"> 1. Improve the energy efficiency of clinker manufacture: This affects only fuel-related emissions. This reduction option is very capital intensive and requires long-term predictability. 2. Fuel switch from fossil fuels to waste recovered as fuel: This option is very effective in terms of sustainable development, but achieves emission reductions in sectors of society not covered by the ETS, i.e. waste disposal and incineration. 3. Reduction of the clinker content in cement: This option reduces both fuel and process emissions. Its potential depends on the regional availability of clinker-substituting minerals such as slag, fly ash and natural pozzolans.
	<p>The ETS, and especially the NAPs, should ensure that all three reduction options are recognized and rewarded, especially the use of waste as a fuel and clinker substitutes, because these are the most effective and cost efficient reduction options, and the only ones achievable within a five years commitment period.</p> <p>This can be achieved by cement-clinker Performance Based Allocation.</p>

<p>Rewarding Energy Efficiency</p>	<p>Performance Based Allocation with a performance standard per tonne clinker rewards energy efficiency of clinker production.</p> <p>Best Available Technology with coal as a traditional fuel leads to a BAT emission of around 830 – 840 kg CO₂ per tonne clinker ⁽¹⁾. The current European average is around 880 - 890 kg CO₂ per tonne clinker.</p> <p>Due to the capital-intensive nature of investments in energy efficiency, as well as the long lead time for permitting and building installations in Europe, the technical and economic potential to improve energy efficiency for 2008 – 12 is very low.</p> <p>EU harmonization is possible: with current performance and the potential to reduce during ETS phase II, this performance standard could be set at 880 kg CO₂ per tonne clinker.</p>
<p>Fuel switch to waste as a fuel</p>	<p>Waste used as a fuel in the cement industry substitutes primary fossil fuels and reduces CO₂ and CH₄ emissions from waste landfills and incinerators. These GHG emission reductions should be recognized and rewarded. This could be done either through offsets from domestic Joint Implementation projects or as cross-sectoral reductions, as defined in Annex 6 (1) of the EC communication for guidance on NAP 2008-12 (COM(2005) 703).</p> <p>In compliance with this guidance, Member States should allocate allowances to the cement industry equal to the CO₂ emissions from waste used as a fuel. NAPs should encourage co-incineration with the aim to reduce emissions in the waste management sector.</p> <p>In this way, the notion of <u>net</u> CO₂ as defined by the WBCSD/WRI cement CO₂ protocol, is recognized.</p>
<p>Clinker substitution</p>	<p>Reducing the clinker content in cement is the most effective way to reduce CO₂ emissions. It impacts all direct emissions, both process and fuel-derived.</p> <p>Clinker substitution could be rewarded through a cement-clinker Performance Based Allocation including a performance standard on the clinker to cement ratio.</p> <p>As the technical and economic potential to reduce the clinker-cement ratio depends on regional availability of clinker substitutes and the applicable cement standards, this performance standard requires regional differentiation.</p>

⁽¹⁾ Since the EU ETS regulates direct emissions, this refers to gross CO₂ as defined by the WBCSD/WRI cement CO₂ protocol.

Further information on Holcim's CO₂ objective and strategies can be found at: www.holcim.com/sustainable/ or by contacting Bruno Vanderborght at: bruno.vanderborght@holcim.com

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