

Fact Sheet - Climate Change

Introduction

Climate change is an issue of global importance that carries significant environmental and financial consequences for the industry. Carbon dioxide (CO₂) is one of the primary greenhouse gases (GHG) that drives global climate change and is the only GHG emitted by the cement industry in significant quantities.

The United Nations Framework Convention on Climate Change (UNFCCC) is the umbrella treaty under which global efforts on climate change are negotiated. Now ratified by more than 180 countries, it is the stimulus for many country-specific policies and is the framework under which a series of protocols are negotiated. These protocols set interim emission reduction targets and the “accounting rules” for quantifying reductions. The most well-known of these is the Kyoto Protocol, which requires that the emissions of most industrialized countries be reduced by an average of 5% compared with 1990 levels by 2012.

Why the issue is important

Concrete is the second most used resource in the world after water. Currently there is no practical substitute for this versatile and durable product for most purposes. As the chief ingredient in concrete, cement is therefore a key requirement of modern society but its manufacture is a resource and energy-intensive process – accounting for 5% of global man-made CO₂ emissions. These result primarily from the combustion of fossil fuels (40%) and the calcination of limestone (60%), a chemical reaction required to produce cement clinker. While CO₂ emissions per unit of cement or concrete is comparatively low in the building materials sector, per unit of financial added value it is high. In consideration of this business risk, managing and reducing CO₂ emissions is a key priority for Holcim.

The key means of achieving emissions reductions are by substituting clinker with suitable mineral components in cement, improving energy efficiency, substituting fossil fuels with biomass and waste materials, and reducing kiln dust disposal. These reduction initiatives are also important eco-efficiency drivers, enabling us to produce more cement while using fewer resources and producing less emissions per tonne. As such, actions to reduce CO₂ emissions are consistent with our business objectives and commitment to sustainable development.

Challenges for Holcim

While we have made a lot of progress since 1990 in reducing our CO₂ emissions per tonne of cement, there are a number of challenges we need to address in order to continue these reductions.

- The availability of the right quality materials to replace clinker in cement is limited in some markets by logistical factors, and by increasingly competitive markets for appropriate materials.
- In some regions, the waste management strategies and infrastructure needed to enable us to use waste and industrial by-products as alternatives to fossil fuels are still being developed. The regulatory systems that would recognize/reward the global CO₂ benefits of waste as a fuel are still to be developed.
- Permitting processes for the installation of larger, more efficient plants and for use of alternative fuels at existing plants, both of which are central to our ability to reduce fossil fuel use, are stringent and take time to complete.

Globally, different policy approaches to climate change are emerging, with a mandatory absolute emission cap in Europe, and proposed cap-and-trade legislation in other Annex 1 countries, and no reduction obligations in non-Annex 1 countries. These different approaches could lead to distortion of competition with no environmental benefit. Within Europe, for example, distortions result from differences in burden sharing between sectors, industries and companies.

As policies for regulating GHG emissions are formulated, Holcim considers that the following basic principles should be taken into account:

- create an incentive to invest in new installations, processes and products that are more energy and CO₂ efficient, with due consideration to avoiding stranded assets;
- efficiently accommodate economic growth, new entrants, closures and rationalization of installations;
- focus on the long-term (ie. beyond 2012) and allow the use of the same principles and mechanisms;
- be simple and transparent;
- prevent unfair distortion of competition;
- allow for fair burden sharing between sectors, industries and companies.

Our commitment

Holcim recognizes climate change as a significant issue and acknowledges the societal and political imperative for action. We are committed to complying with emerging obligations in the most cost-efficient ways. Our strategy is to build knowledge leadership, reduce the CO₂ intensity of our production processes and product use, and participate in the development of international policies and mechanisms.

We have established a target to reduce our global average net specific CO₂ emissions by 20% by 2010, with 1990 as the reference year. This reduction will be achieved through improving

the four eco-efficiency parameters: clinker factor, specific thermal energy consumption, thermal substitution rate and reducing cement kiln dust disposal.

To assist our Group companies in reducing their clinker factor, a range of tools has been developed addressing strategic sourcing, technical and marketing issues associated with the use of mineral components. Energy efficiency is a key design element in all of our investment projects and is a significant factor in plant performance reviews. To support our commitment to increasing the use of alternative fuels and raw materials (AFR), and to ensure that our use of AFR remains firmly aligned with the principles of sustainable development, we have developed a corporate AFR policy. The policy guides our use of these waste streams from industry, agriculture and communities, and is backed up by manuals detailing engineering, health and safety guidelines. In those areas where cement kiln dust is generated, Group companies are developing innovative solutions to reduce this waste and improve efficiency.

We monitor and report our CO₂ emissions according to the WBCSD Carbon Dioxide Protocol for the cement industry and will continue to report progress against our reduction target. From 2004, we have been able to fully embed CO₂ emissions monitoring and reporting in our business processes. Independent assurance over our CO₂ data has been provided since the 2004 reporting period.

Holcim aims to work proactively to assist with practical policy development. We are actively engaged in the Cement Sustainability Initiative (CSI) task force on climate protection and the CSI project "Getting the Numbers Right". We work with competent authorities, WBCSD/WRI, the International Emissions Trading Association and other organizations to investigate public policy and market mechanisms for making meaningful reductions in CO₂ emissions in the most effective way. In all our public policy engagement, Holcim is committed to openness and transparency, and to acting as an ethical and responsible member of society. Holcim has several CDM projects in various stages of development in the Group and works with the CSI for the development of a new methodology based on benchmarking.

Related publicly available information

Holcim publishes Corporate Sustainable Development Reports (CSDRs) each second year, with performance information and data updated annually on our website. Together with the latest information on our CO₂ emissions performance, position papers, further fact sheets and other SD-related information, this can be found at: www.holcim.com/sustainable/.

For more details on the UNFCCC and Kyoto Protocol, see www.unfccc.int/. Further information about the Cement Sustainability Initiative and the WBCSD Carbon Dioxide Protocol for the cement industry can be found at www.wbcSDcement.org/