



The  
**cement**  
sustainability  
initiative

our agenda for action

Executive Summary

July 2002



World Business Council for  
Sustainable Development



# The Cement Sustainability Initiative



Begun in 1999, the Cement Sustainability Initiative is a contribution of ten major cement companies, working with the World Business Council For Sustainable Development (WBCSD) toward sustainable development.

The purpose of the Initiative is to:

- explore what sustainable development means for these ten companies and the cement industry
- identify and facilitate actions that companies can take as a group and individually to accelerate the move toward sustainable development
- provide a framework through which other cement companies can participate
- provide a framework for engaging external stakeholders

## *Toward a Sustainable Cement Industry: the research program*

During the past three years the Initiative has overseen a major program of research and stakeholder consultation, concluding with the publication in March 2002 of the independent report from the Battelle Memorial Institute "Toward a Sustainable Cement Industry." Their report made ten key recommendations for the industry to progress on the path toward sustainable development - in the areas of climate protection, resource productivity, emissions reduction, employee well-being, community well-being, ecological stewardship, regional development, business integration, innovation and industry co-operation.

In parallel with this study, stakeholder dialogues were held in Curitiba (Brazil), Bangkok, Lisbon, Cairo, Washington, Brussels and Beijing. The purpose of these sessions was to listen to the expectations of key stakeholders, and explore what those expectations mean for the future of the industry.

# The Agenda For Action

## *Why does the cement industry need*

### *an agenda for sustainable development?*

The ten companies involved in the Cement Sustainability Initiative have chosen to develop an agenda for action for three reasons:

- To prepare for a more sustainable future by making more efficient use of natural resources and energy and engaging with local issues in emerging markets
- To meet the expectations of stakeholders and maintain their 'license to operate' in communities across the world through greater transparency of operations, effective engagement with society, and initiating actions which lead to sustained positive changes
- To individually understand and build new market opportunities through process innovations which achieve greater resource/energy efficiency and long-term cost savings; product and service innovations to reduce environmental impacts; and work with other industries on novel uses of by-product and waste materials in cement production

The companies have identified six key areas where they believe that the Cement Sustainability Initiative can make a significant contribution to achieving a more sustainable society:

- **Climate protection**
- **Fuels and raw materials**
- **Employee health and safety**
- **Emissions reduction**
- **Local impacts**
- **Internal business processes**

These form the basis of this Agenda for Action, which sets out the work program for the Cement Sustainability Initiative over the next five years. The sixth area of work addresses internal business processes that run through the other five areas - effective management systems, stakeholder engagement and reporting.

#### **Involving third parties**

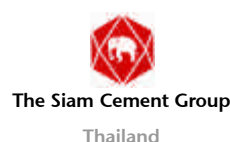
The work so far has emphasized the fact that the industry cannot work in isolation on these issues. One of the central principles of the Cement Sustainability Initiative is therefore to engage relevant third parties in all aspects of its work. As the Agenda for Action sets out, many of the joint projects will engage interested parties, such as Trade Associations, NGOs and government representatives, in the development of industry-wide guidelines and protocols. The Initiative is an open process and we invite other cement companies to join us.

#### **Joint projects and individual company actions**

For each of these six areas, there are both joint projects and individual actions. The joint projects will involve several companies working together to tackle a specific project, often in conjunction with stakeholders, for example to produce guidelines. Participation in them will be voluntary. The individual actions will be implemented by companies independently within their operations. These would include, for example, using the guidelines developed as part of the joint projects to help set and report individual company targets.

#### **Joint activities, individual responsibility**

While joint action is at the heart of the work program, individual companies take responsibility for carrying out their commitments. The details of strategy, timing and reporting will vary between companies, reflecting differences in business systems, cultures, and social settings. Companies are of course responsible for ensuring that any action they take is in compliance with local regulations.



# Summary of the Agenda for Action

Joint projects	Individual company actions
<p><i>The Cement Sustainability Initiative intends to create joint projects to:</i></p>	<p><i>As part of our ongoing commitment to good practice and innovation in sustainable development, companies agree to:</i></p>
<b>Climate protection</b>	
<ul style="list-style-type: none"> <li>▪ develop a Carbon Dioxide (CO<sub>2</sub>) Protocol for the cement industry. (Project already delivered.)</li> <li>▪ work with WBCSD/World Resources Institute (WRI) and other organizations to investigate public policy and market mechanisms for reducing CO<sub>2</sub> emissions.</li> </ul>	<ul style="list-style-type: none"> <li>▪ use the tools set out in the CO<sub>2</sub> protocol to define and make public their baseline emissions.</li> <li>▪ develop a climate change mitigation strategy, and publish targets and progress by 2006.</li> <li>▪ report annually on CO<sub>2</sub> emissions in line with the protocol.</li> </ul>
<b>Fuels and raw materials</b>	
<ul style="list-style-type: none"> <li>▪ develop a set of guidelines for the responsible use of conventional and alternative fuels and raw materials in cement kilns.</li> </ul>	<ul style="list-style-type: none"> <li>▪ apply the guidelines developed for fuel and raw material use.</li> </ul>
<b>Employee health and safety</b>	
<ul style="list-style-type: none"> <li>▪ set up a Health and Safety Task Force. (Project already delivered.)</li> <li>▪ establish a Health and Safety information exchange.</li> </ul>	<ul style="list-style-type: none"> <li>▪ respond to the recommendations of the Health and Safety Task Force on systems, measurement and public reporting.</li> </ul>
<b>Emissions reduction</b>	
<ul style="list-style-type: none"> <li>▪ develop an industry protocol for measurement, monitoring and reporting of emissions, and find solutions to more readily assess emissions of substances such as dioxins and volatile organic compounds (VOCs.)</li> </ul>	<ul style="list-style-type: none"> <li>▪ apply the protocol for measurement, monitoring and reporting of emissions.</li> <li>▪ make emissions data publicly available and accessible to stakeholders by 2006.</li> <li>▪ set emissions targets on relevant materials and report publicly on progress.</li> </ul>
<b>Local impacts</b>	
<ul style="list-style-type: none"> <li>▪ develop guidelines for an Environmental and Social Impact Assessment (ESIA) process which can be used at all cement plant sites and associated quarries.</li> </ul>	<ul style="list-style-type: none"> <li>▪ apply the ESIA guidelines, and develop tools to integrate them into decision making processes.</li> <li>▪ draw up rehabilitation plans for their operating quarries and plant sites, and communicate them to local stakeholders by 2006.</li> </ul>
<b>Internal business processes</b>	
<ul style="list-style-type: none"> <li>▪ investigate methods to track the performance of the cement industry, including development and use of key performance indicators.</li> <li>▪ produce a full progress report after 5 years, and an interim report after 3 years.</li> </ul>	<ul style="list-style-type: none"> <li>▪ integrate sustainable development programs into existing management, monitoring and reporting systems.</li> <li>▪ publish a statement of business ethics by 2006.</li> <li>▪ establish a systematic dialogue process with stakeholders to understand and address their expectations.</li> <li>▪ report progress on developing stakeholder engagement programs.</li> <li>▪ develop documented and auditable environmental management systems at all plants.</li> </ul>

# The cement industry

Cement-like products were used in Greek and Roman structures over 2000 years ago, but modern cement was first produced in the early 1800s. The industry has changed considerably since then, although much of the product remains the same.

*Key features of the modern cement industry are:*

- **essential product**

Cement is the key constituent of concrete, which is the second most consumed material on the planet.

- **capital intensive process**

The cement industry is one of the most capital intensive industries: the cost of a new cement plant can be equivalent to about 3 years of revenue. Modern cement plants have capacities well in excess of 1 million tons per year. Once built, facilities may last for 50 years.

- **energy intensive process**

It requires the equivalent of 60 to 130 kilograms of fuel oil and 110 kWh of electricity to produce one ton of cement.

- **low labor intensity**

Modern cement plants are highly automated. A large plant can be staffed by less than 200 people.

- **homogenous product**

Cement is a global commodity, manufactured at thousands of local plants. There are only a few types of cement, and products from different producers can generally be substituted for each other.

- **mixture of local and global companies**

The industry is consolidating globally, but large, international firms still account for less than one-third of the worldwide market. Many smaller firms remain in the ownership of their founder families. Some national industries are primarily state-owned, such as China's.

- **a significant role in the climate change debate**

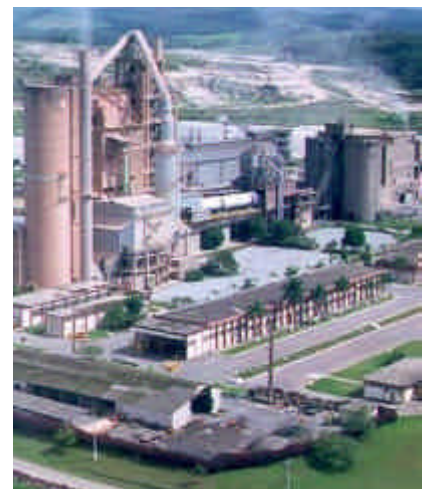
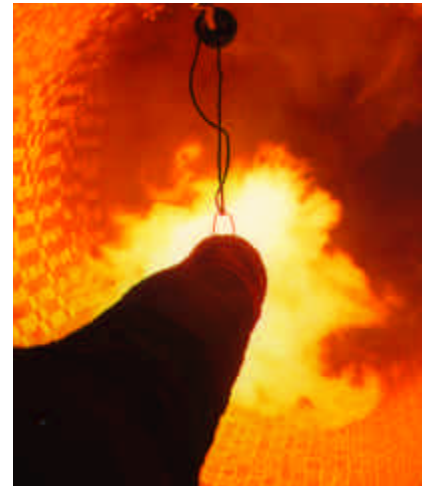
The cement industry produces 5% of global man-made CO<sub>2</sub>, a major greenhouse gas contributing to climate change.

- **modern industry in the developing world**

Plants in the developing world, where the industry continues to expand and develop new sites, may be cleaner and more efficient than those in the developed world which were built 10, 20 or even 30 years earlier.

- **a low cost and heavy product**

Because of its weight, cement supply via land transportation is expensive, and generally limited to an area within about 300 km of any one plant site. It is cheaper per ton to cross the Atlantic Ocean with 35,000 tons of cargo than to truck cement 300 km.



## Fast Facts

### About the cement industry

- Approximately 1.6 billion metric tonnes of cement produced in 2000
- The primary use of cement is in making concrete - a mixture of sand, gravel, water and cement
- One third of the world's annual production is in China
- The industry operates in more than 150 countries
- Approximately 850,000 workers worldwide directly employed
- In 2000 worldwide estimated annual revenues of \$97 billion (USD)

## About the WBCSD

The World Business Council for Sustainable Development (WBCSD) is a coalition of 160 international companies united by a shared commitment to sustainable development via the three pillars of economic growth, ecological balance and social progress. Our members are drawn from more than 30 countries and 20 major industrial sectors. We also benefit from a Global Network of 38 national and regional business councils and partner organizations involving more than 1,000 business leaders globally.

For more information about the Cement Sustainability Initiative, please contact: the World Business Council for Sustainable Development in Geneva at, [cement@wbcsd.org](mailto:cement@wbcsd.org). Copies of all the project documents are available on the project web site, [www.wbcsdcement.org](http://www.wbcsdcement.org).

Printed copies of the Agenda for Action may be ordered from:

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