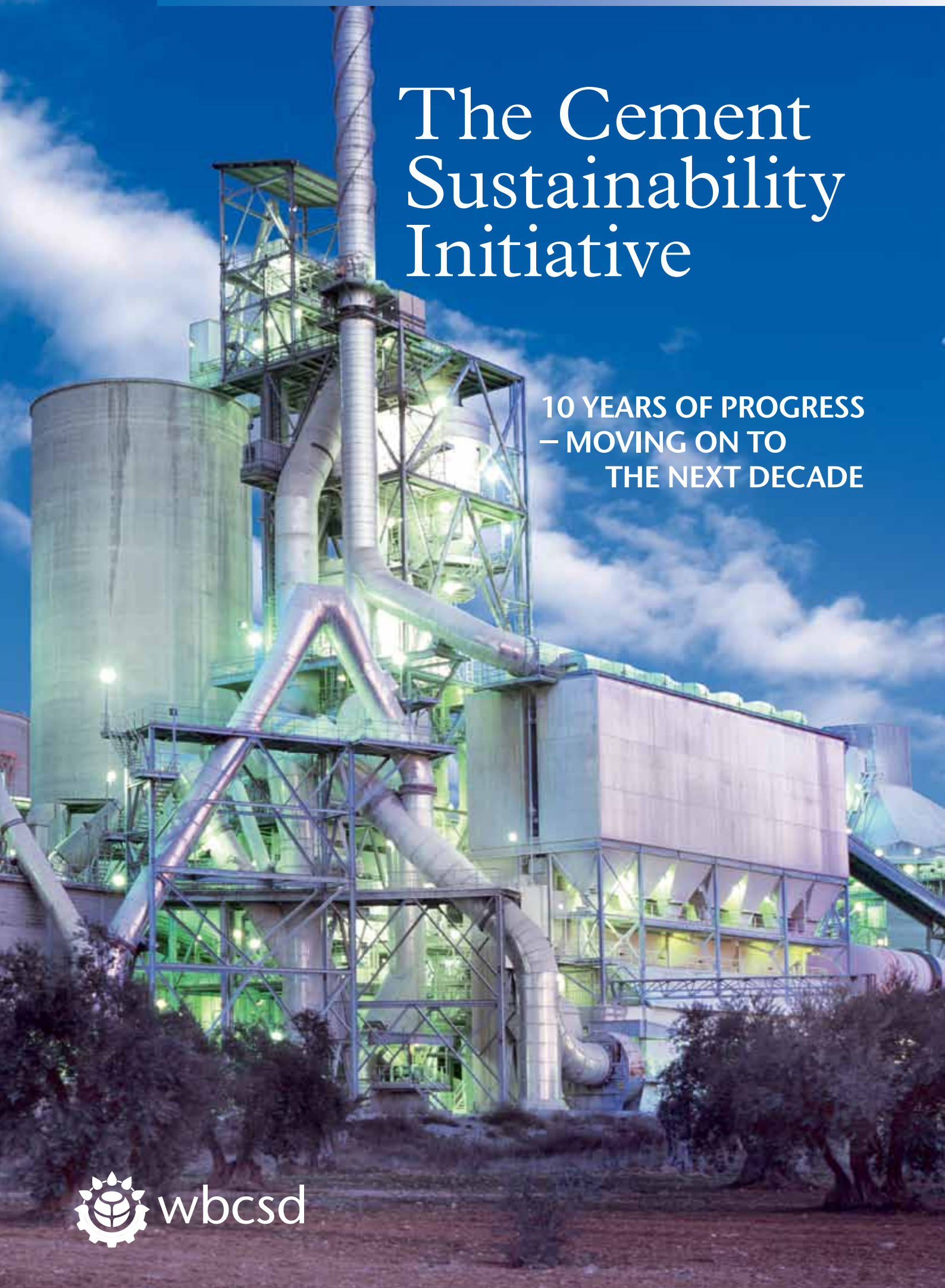
business solutions for a sustainable world

The Cement Sustainability Initiative

10 YEARS OF PROGRESS – MOVING ON TO THE NEXT DECADE



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10 years of progress – moving on to the next decade

In 2002, the founding members of the World Business Council for Sustainable Development's (WBCSD) Cement Sustainability Initiative (CSI) published their Agenda for Action. It set out a program of work, focusing on certain specific areas. In each area, there are two kinds of action: joint projects, which companies work together to tackle a specific environmental or social issue; and individual actions, which are implemented by each company in its own operations (including target setting and performance reporting), applying both innovation and good practice.

This document provides a snapshot of CSI's achievements over the past ten years, as well as an outlook onto the future issues the cement industry will need to tackle, and how the CSI and its member companies are planning to respond to changing and new sustainability challenges. More details are provided in the 2012 Progress Report (csiprogress2012.org) or on the CSI website (www.wbcsdcement.org).

Safety

Fuels & raw materials use

Climate protection

Air emissions

Local impacts on land and communities

Sustainability with concrete

Global influence and vision

Moving on to the second decade of the 21st century, businesses are not only expected to manage their own response to sustainability challenges but also to help society deal with wider issues. The cement industry has changed significantly since 2002 and the CSI has been successful in nurturing these changes, particularly through its engagement with governments and global organizations such as the United Nations (UN), and through collaborative knowledge transfer with leading organizations including the World Resources Institute (WRI) and the International Energy Agency (IEA). The CSI's geographic focus has also expanded to embrace emerging nations and major cement producers in China, India and Latin America who are playing a more and more active role.

The CSI has identified several global trends becoming increasingly important to the way the cement industry operates in the future:

- Accommodating population growth and increased urbanization. This will demand more buildings and infrastructure. The CSI and its members will play an important role in helping to define the sustainable characteristics of tomorrow's cities.
- Decoupling the extraction of primary resources from the projected population growth. The CSI and its members will learn how to do more with less.
- Assessing the life cycle of buildings with regard to their social, economic and environmental impact. The CSI and its members will help the industry in delivering the data and tools that enable these assessments to be undertaken in a meaningful way.
- Managing biodiversity, ecosystems and water. These issues have been moving up the sustainability agenda rapidly. The CSI and its members will help develop procedures to ensure that resources are managed and preserved properly.
- Improving health and living standards. The health and safety of workers and the communities in which they operate have always been, and will remain, the priority for cement producers. Rising living standards will place additional expectations on companies, from the way products are manufactured to their ultimate use in the built environment.
- Addressing community expectations. Local concerns and expectations will keep rising, in particular vis-à-vis large, global companies. Addressing them will require cultural sensitivity and local approaches to building and maintaining trust through enhanced community engagement and empowerment.



Key issues

Much has happened in the last decade. The CSI's membership has grown to 24 companies in 2012, representing around 30% of global cement production. While many of the major sustainability issues identified in 2002 are still high on the agenda, new challenges have also emerged as sustainability has become more deeply embedded in the way cement is manufactured and used.

Safety

CSI members understand and acknowledge that safety is an issue of utmost importance. With that mindset and a common goal to improve health and safety performance, members are working tirelessly, not only for their own employees but also for their contractors and suppliers. The CSI has delivered on its promises to develop a common reporting protocol for employee safety. It has also delivered safety programs to educate contractors and drivers – which are identified as key areas of concern – to improve safety and particularly to reduce the number of fatalities. The ultimate mission of the CSI and its members is to completely eliminate fatalities. There is still a long way to go but the first step is to ensure that, within the next 10 years, the average safety performance of CSI members will, as a minimum, match that achieved by the leading industrial sectors.

Climate protection

The cement industry is responsible for about 5% of all man-made CO_2 emissions. Climate protection has therefore always been high on the CSI's agenda. In the 10 years since the publication of its *Agenda for Action*, the CSI has established itself as one of the world's leading industry-focused initiatives with a strong compliance culture in terms of understanding, measuring and reporting CO_2 and other emissions. The world's first global database of CO_2 emissions was developed by the CSI and at present reports on about 1,000 facilities worldwide. The first ever industry-specific technology roadmap, produced by the WBCSD and the IEA, was developed on the cement industry, with prominent input from the CSI. The CSI will continue to expand its global CO_2 database with emphasis on participation in key developing markets like China, India and Latin America. The potential and opportunity for the CSI to add value to the research into emissions reduction products and technologies including low carbon cements and carbon capture and storage (CCS) will also be explored.

Fuels and raw materials use

Modern society is facing a dilemma as to how we manage wastes. The cement kiln provides an ideal means of disposing of many waste materials, while generating the energy required to make cement. Cement production is energy intensive, and the long retention times and high temperatures provide the ideal solution to the safe disposal of otherwise un-recyclable materials. However, stakeholder concerns need to be addressed and environmental standards to be set and respected. The CSI has developed strict quality guidelines for the co-processing of waste and the use of raw materials, which have been widely adopted by the industry as a whole. In the next decade, the increasing population will place even more pressure on waste disposal capabilities. The CSI will continue to work with cement producers, regional and national trade associations, as well as concerned stakeholders, to ensure the responsible development of alternative fuel and raw materials uses.

Air emissions

Like many energy intensive manufacturing industries, cement production generates emissions apart from CO_2. These include dust, nitrogen oxide (NOx) and sulphur oxide (SOx), as well as some micro-pollutants. CSI guidelines have been developed to provide member companies with an agreed common protocol on how to monitor and measure these pollutants. Persistent organic pollutants (POPs), mercury and micro-pollutants generated as a consequence of cement production have been the focus of a two-year study undertaken by the CSI, working in conjunction with the United Nations Environment Program (UNEP). Other collaborative works with universities and trade associations have helped to identify good practice and establish control techniques to minimize emissions. In 2012, the CSI published an updated guide to emissions monitoring and reporting, including a recommendation to implement continuous emissions monitoring (CEMS) for some of these emissions.

And all CSI members will have implemented the guidelines by the end of 2015. In addition, the CSI will lead the sector's efforts under the UNEP global mercury partnership on cement, set in late 2011.

Local impacts on land and communities

Extracting limestone, the raw material required to produce cement, can have significant local impacts on land and communities around quarries. Dust, noise and traffic movements are all inevitable consequences of quarrying. In 2005, CSI members collaborated in the production of the Environmental and Social Impact Assessment (ESIA) Guidelines. Moving forward, the recognition that worked-out quarries can become an asset to communities and the wider environment has prompted significant work to be undertaken on improving biodiversity and amenity value through quarry rehabilitation. 2011 saw the publication of the CSI Guidelines on Quarry Rehabilitation, designed to ensure that members have a common understanding of how to manage, and measure, successful quarry rehabilitation. Next steps will be to develop guidance for companies to set up their biodiversity management plans and to adopt a common screening tool to identify high biodiversity value areas.

Water

When the CSI's *Agenda for Action* was written in 2002, water was not regarded as a major sustainability issue. Today the concept of water stress is better understood. Water conservation, water foot-printing and water management are having a growing place on many businesses' sustainability agendas, ranking alongside carbon as a finite global resource that requires careful management. The CSI established a dedicated task force to define indicators to measure companies' performance in water management, and to develop a protocol for water reporting and guidance on good practices for water measurement.

Supply chain management

As for other industries, companies in the cement sector can extend their influence beyond the factory gates to bring positive change in sustainability across the supply chain. While there is currently no defined structure to assess supply chain commitments and performance, the CSI is ideally placed and structured to provide the necessary frameworks, reporting and measurement procedures to accelerate the development of sustainable good practice through the entire supply chain.

Sustainability with concrete

A major development since the CSI's *Agenda for Action* was launched is about the way stakeholders look at the role cement plays in construction, use and eventual recycling of sustainable buildings and infrastructure. Concrete is the most used manmade material in the world. It exhibits excellent structural, thermal and affordable properties, making it the ideal building material. In 2009, the CSI published an assessment of recycling practices. More recently, work has begun on the development of guidance for Environmental Product Declarations and the development of criteria for a responsible sourcing scheme for concrete, which will contribute to the assessment of concrete's sustainability. The scope of much of the future work on sustainability with concrete will require close collaboration between the CSI and other environmental and construction groups. This will be a good opportunity for the CSI to broaden its remit, influence and outreach.

Working with others

CSI members are experts on cement production. In order to ensure that all aspects of sustainability are understood, interpreted and communicated as extensively as possible, the CSI has built excellent relationships with local, national and regional cement associations, non-governmental organizations, inter-governmental agencies, and not least a distinguished external advisory panel. The ability of the CSI to call upon, and co-operate with the world's leading experts in business sustainability helps it to maintain a leading role on sustainable development.

Disclaimer

This report is released in the name of the WBCSD. It is the result of a collaborative effort by members of the secretariat and executives from member companies participating in the Cement Sustainability Initiative (CSI). The content was reviewed among CSI members, so ensuring that the document broadly represents the majority view of this group. This does not mean, however, that every member company agrees with every word.

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Printer: Atar Roto Presse SA, Switzerland. Printed on paper containing fiber certified 100% to FSC labeled paper according to the mixed credit system, or certified 90% to PEFC labeled paper according to the percentage average method. 100% chlorine free. ISO 14001 certified mill.

ISBN: 978-3-940388-91-9

www.wbcsdcement.org
csiprogress2012.org

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