

Development and Publication of an ‘Agenda for Action’ by the Cement Sustainability Initiative -Cement Sector Project of WBCSD-

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ABSTRACT: *Taiheiyo Cement Corporation is a member of the Cement Sustainability Initiative (CSI), one of the sector projects of the World Business Council for Sustainable Development (WBCSD; Switzerland). We have researched and addressed key issues on sustainable development together with other world leading cement companies and on July 3, 2002 in Paris and Tokyo, the CSI released their ‘Agenda for Action’. This presents how the CSI set out the program to accelerate the move toward sustainable development and to implement the ‘Agenda for Action’.*

KEYWORDS: *WBCSD, Sustainable Development, Cement Sustainability Initiative, CSI*

1. Introduction

Cement is used globally and cement plants are operational in more than 150 countries. Over the last 10 years the global cement industry has been consolidating and major cement companies have come to recognize that an appropriate stewardship of the environment is one of the major factors affecting their business success in the future. In 2000, approximately 1.6 billion tons of cement was produced and global production is estimated to continue increasing in the future. The growth rates in developing markets are predicted to increase more rapidly as shown in Fig.1 [1]. The industry is facing a unique set of issues which attract attention from communities near the plant and at a

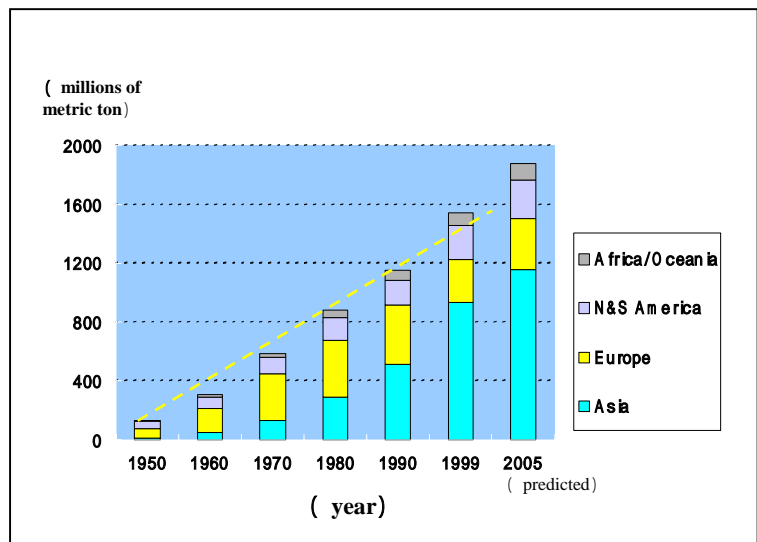


Fig.1 Global Cement Production from 1950 to 2005

global level. The issues are complex ranging from local dust, noise and employment concerns to the potential impact on climate change.

This paper describes the activities of the Cement Sustainability Initiative (CSI), one of the sector projects of the World Business Council for Sustainable Development [2] (WBCSD; Switzerland) and the content of the CSI's "Agenda for Action" [3]

2. WBCSD and the concept of Sustainable Development

WBCSD was established in 1995 and is a coalition of 168 international companies (as of November, 2002) united by a shared commitment to SD (Fig.2). WBCSD, an organization representing 20 major industrial sectors, cooperates with international organizations such as United Nations, OECD, National Bank and ISO (international organization for standardization). One of the organization's early initiatives was their encouragement for the introduction of the ISO 14000 series.

SD, to which WBCSD member have a shared commitment, can be defined as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" [4]. The concept of SD shown in Fig.3 focuses on the relationship between the triple bottom line dimensions of Economy, Environment and Society to help manage the delicate balance between sometimes competing

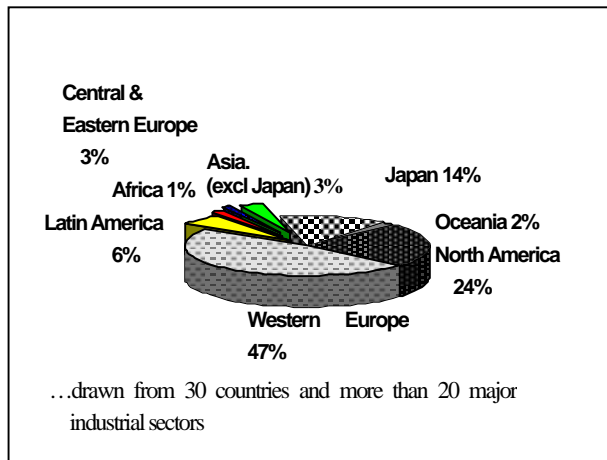


Fig.2 WBCSD membership

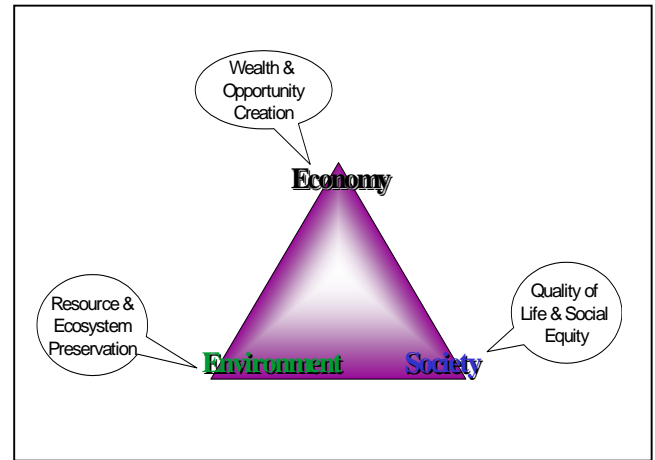


Fig.3 SD concept

objectives. Few doubt today that the introduction of the SD concept is a major challenge for society as a whole. However, it is not the same in all countries, or in all businesses. Depending upon local circumstances the emphasis on economic growth, environmental management and social progress can vary considerably. Taiheiyo Cement Corporation (Taiheiyo) recently integrated the SD concept into our corporate mission and our business principles.

3. Activity of CSI

Taiheiyo is a founding member of the CSI, one of the sector projects of the WBCSD. We have researched and

addressed key issues on sustainable development together with nine other world leading cement companies. The founding members of the CSI were Cemex (Mexico), Cimpor (Portugal), HeidelbergCement (Germany), Holcim (Switzerland), Italcementi (Italy), Lafarge (France), RMC (United Kingdom), Siam Cement (Thailand), Taiheiyo (Japan) and Votorantim (Brazil). The ten companies represent over one third of the global cement supply and operate in two thirds of the world's cement markets.

On July 3, 2002 in Paris (Fig.4) and Tokyo and then on August 31 at the World Summit on Sustainable Development (WSSD) in Johannesburg, the CSI launched their “Agenda for Action” setting out a program of work for the next five years to accelerate the move toward SD.



Fig.4 Launch Event at Paris

4. Process of CSI

In November 1999, three companies, Cimpor, Holcim and Lafarge, came together as a group under the auspices of WBCSD in order to explore SD issues facing the industry. As a result of their discussion on “toward a sustainable cement industry in 21st Century”, the companies recognized that their specific issues are very essential matters for all cement companies such as being responsible for the generation of more than 3% of world's man-made greenhouse gases and a large consumption of energy and natural resources. By engaging with a wide community of interested parties, they hoped to encourage discussion of the issues in ways that were balanced, interactive, and constructive. Therefore, they simultaneously worked to recruit seven others interested in exploring a similar set of issues.

As a first step of the CSI, WBCSD commissioned the Battelle Memorial Institute, a major not-for-profit research institute specializing in the technical aspects of SD. Battelle conducted a two-year independent research project involving experts from industry, academia and NGOs in thirteen separate sub-studies, each of which focused on different aspects of sustainable development. The sub-studies identified the major opportunities and challenges facing the industry. This research phase, as illustrated in Fig.5, included a series of seven dialogue sessions with stakeholders in order to listen to their expectations and criticisms.

The final report, “Toward a Sustainable Cement Industry”, published in April 2002, defines the key issues facing the cement industry and suggests potential actions that could be taken up by the industry as a whole or by individual companies, in conjunction with relevant stakeholders.

- 1) Specific operational matters that impact SD progress in the cement industry
 - Quarry practices, emission reductions, climate change, resource productivity and employee health and safety
- 2) Social development actions
 - Regional and community development
- 3) Business processes management:
 - Innovation, organizational change, and cooperation (partnership, outreach, engagement), communications skills and activities.

In order for the CSI to reinforce independence and have credibility with people outside the industry, an external Assurance Group was set up. The Assurance Group, chaired by Dr. Mostafa Tolba, former Director-General of UNEP, reviewed the research to make certain the consultants’ work met high standards of accuracy, balance, and thoroughness as shown in Fig. 6.

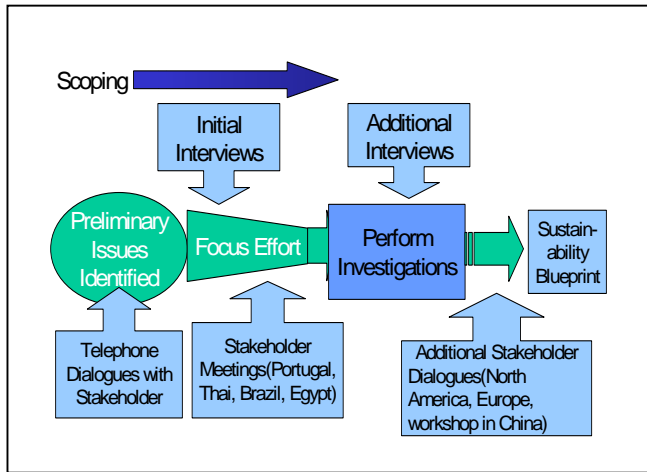


Fig.5 Conduct of CSI Research Phase

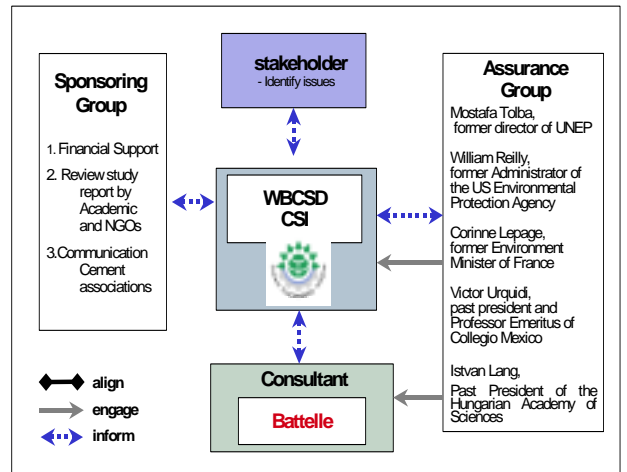


Fig.6 Project Structure of CSI

This research on SD represents just the beginning of a twenty-year change process. The Battelle reports are a good starting point, but they do not necessarily guarantee change. Therefore, as a second step, the ten founding companies agreed to launch the CSI’s Agenda for Action which includes a specific series of commitments, actions, programs and measurements to help meet their sustainability agenda.

5. Summary of Agenda for Action

5.1 “joint projects” and “individual company actions”

As shown in Table I, six key areas have been defined for which there are both joint projects and individual actions. While joint action is at the heart of the work program, individual companies take responsibility for carrying out their commitments. Since there are differences of management system and varying social, economic and cultural climates between companies, strategy, schedule and reporting details may vary from company to company. For example, while energy efficiency has almost reached it’s technical limit in Japan, this may not be so in other countries. Consequently, the development of a common CO₂ reduction target is

meaningless. Therefore, the 10 cement companies have agreed to develop guidelines or protocol (monitoring and reporting) as joint projects, but to set their own specific targets on an individual basis.

5.2 Climate Protection

Since the climate issue is a most important challenge for cement industry, cement associations of each area have already established climate policies and have directed their efforts toward CO₂ emissions reduction. The CSI identified Climate Protection as a priority issue and has already developed a protocol for measurement and reporting of cement CO₂ emissions.

Taiheiyo has reported cement production related CO₂ emissions in our environmental report. However, as a CSI member we have committed to measure it using “the protocol” by 2006 and make public our baseline and reduction target. However, we are concerned about the main key issue of how to establish our emission reduction target and develop our strategy to meet the target whilst taking into account Japanese government policy after 2006, the Kyoto protocol and the voluntary agreement of Japanese industries.

5.3 Fuels and raw materials

It is recognized that the cement industry has an important role in the recycling of wastes and by-products as AFR in Japan. We at Taiheiyo have developed and implemented our own “manual for applying recycled resources” as indeed have many other companies. However, such manuals or guidelines are not always made public and also each company will have defined a different set of criteria to include in any risk assessment.

The guidelines to be developed by the CSI therefore are not just for communication with worldwide stakeholders, they are to ensure that we use wastes safely, without harm to employees, neighbors or the environment. The CSI intends to begin open, constructive dialogue with stakeholders to investigate the risks and benefits associated with waste utilization – we hope this will lead to the creation of agreed guidelines that can be used by companies across the world.

5.4 Employee health and safety

The Health and Safety Task Force, led by Cemex, has been set up to exchange information on accidents and incidents in order to investigate safety indicators. Taiheiyo will also participate in the Task Force which will develop KPI's and recommendations for a reporting system for OH&S.

5.5 Emissions reduction

Although there are environmental protection regulations for gaseous emissions from the kiln such as NO_x, SO_x and dust (as well as CO₂), the data is not usually comparable among companies or among countries. It is clear that some stakeholders feel that existing emission regulations are still not strong enough, and that most want clear information on the nature of our emissions, their impacts, and what we are doing about them. As a first step, we will develop a global protocol related to NO_x, SO_x and dust. Following this, individual companies will set emission reduction targets, and will then report on progress.

Table I Summary of the Agenda for Action

| <p><i>Joint projects</i> The Cement Sustainability Initiative intends to create joint projects to:</p> | <p><i>Individual company actions</i> As part of their ongoing commitment to good practice and innovation in sustainable development, companies agree to:</p> |
|--|---|
| <p><i>Climate protection</i></p> <ul style="list-style-type: none"> ▪ develop a Carbon Dioxide(CO₂) Protocol for the cement industry. (Project already delivered). ▪ work with WBCSD/World Resources Institute(WRI) and other organizations to investigate public policy and market mechanisms for reducing CO₂ emissions. | <p><i>Climate protection</i></p> <ul style="list-style-type: none"> ▪ use the tools set out in the CO₂ protocol to define and make public their baseline emissions. ▪ develop a climate change mitigation strategy, and publish targets and progress by 2006. ▪ report annually on CO₂ emissions in line with the protocol. |
| <p><i>Fuels and raw materials</i></p> <ul style="list-style-type: none"> ▪ develop a set of guidelines for the responsible use of conventional and alternative fuels and raw materials in cement kilns. | <p><i>Fuels and raw materials</i></p> <ul style="list-style-type: none"> ▪ apply the guidelines developed for fuel and raw material use. |
| <p><i>Employee health and safety</i></p> <ul style="list-style-type: none"> ▪ set up a Health and Safety Task Force. (Project already delivered) ▪ establish a Health and Safety information exchange. | <p><i>Employee health and safety</i></p> <ul style="list-style-type: none"> ▪ respond to the recommendations of the Health and Safety Task Force on systems, measurement and public reporting. |
| <p><i>Emissions reduction</i></p> <ul style="list-style-type: none"> ▪ 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. | <p><i>Emissions reduction</i></p> <ul style="list-style-type: none"> ▪ apply the protocol for measurement, monitoring and reporting of emissions. ▪ make emissions data publicly available and accessible to stakeholders by 2006. ▪ set emissions targets on relevant materials and report publicly on progress. |
| <p><i>Local impacts</i></p> <ul style="list-style-type: none"> ▪ develop guidelines for an Environmental and Social Impact Assessment (ESIA) process which can be used at all cement plant sites and associated quarries. | <p><i>Local impacts</i></p> <ul style="list-style-type: none"> ▪ apply the ESIA guidelines, and develop tools to integrate them into decision making processes. ▪ draw up rehabilitation plans for its operating quarries and plant sites, and communicate them to local stakeholders by 2006. |
| <p><i>Business processes</i></p> <ul style="list-style-type: none"> ▪ investigate methods to track the performance of the cement industry, including development and use of key performance indicators. ▪ produce a full progress report after 5 years, and an interim report after 3 years. | <p><i>Business processes</i></p> <ul style="list-style-type: none"> ▪ integrate sustainable development programs into existing management, monitoring and reporting systems. ▪ publish a statement of business ethics by 2006. ▪ establish a systematic dialogue process with stakeholders to understand and address their expectations. ▪ report progress on developing stakeholder engagement programs. ▪ develop documented and auditable environmental management systems at all plants. |

In most of countries, there is no emission regulation concerning hazardous substances such as dioxins and VOC since they are often below detection limits. Because the measurement sometimes includes a large margin of inaccuracy, we will also find solutions to better assess emissions of these substances.

Though Taiheiyo currently publishes emission data on NO_x, SO_x, dust and dioxins in our environmental report, we will apply the protocols for measurement, monitoring and reporting of emissions once developed by the

CSI.

5.6 Local impacts

Taiheiyo, as do many other cement companies, conduct Environmental Impact Assessments whenever developing a new quarry sites. However, the CSI recognizes that cement plant sites and associated quarries not only have environmental impacts but also social and economic impacts on the local community.

The CSI has undertaken to work with interested stakeholders to develop guidelines on an Environmental and Social Impact Assessment (ESIA) which can be used at all cement plant sites and associated quarries, and for all new projects, site acquisitions, developments, and closures. By 2006, we will have rehabilitation plans for all existing operating quarries and plant sites.

5.7 Internal business processes

We will investigate how we can track the performance of the cement industry on SD including development and use of key performance indicators (KPI) for sustainable development goals and processes. Each company will integrate SD programs including the above each action into existing management, monitoring and reporting systems.

6. Future

In order for each company to implement the commitments made in the CSI Agenda for Action, Taiheiyo recognizes the need to focus on concrete actions in the 6 key areas.

The CSI will publish an interim report on our progress toward delivering the Agenda for Action in 2005, and a full progress report in 2007. The CSI will further develop the agenda for the next five years and report on the progress to stakeholders.

However, it is very difficult for only 10 founding companies to reach the goal of becoming a sustainable cement industry in isolation. Therefore, the CSI will engage with key stakeholders such as cement associations in each country and NGOs. We also invite other companies, both large and small, from both developed and developing countries, to join us at any stage of the program. Recently Uniland (Spain) and Titan (Greece) have been recruited as core members of the CSI.

Copies of project documents are available on the project web site, <http://www.wbcscement.org>

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