AUSTRALIAN CEMENT INDUSTRY

Sustainability Report 2011

CEMENT INDUSTRY FEDERATION

Chairman's message

As Chairman of the Cement Industry Federation, it is with great pride that I introduce the fourth *Sustainability Report* for the cement industry. These four sustainability reports come in addition to earlier environment reports in 2000 and 2003 — completing over a decade of cement industry reporting on the environment. Since 2005 the industry has focused on the key sustainability issues identified by the World Business Council's Cement Sustainability Initiative in a broader 'sustainability report'.

At the present time, the market conditions for cement manufacturing in Australia are tough and a range of government imposts are adding to these difficult market circumstances. Despite these challenges, the Australian cement industry continues to strive for world's best practice environmental performance.

The CIF *Sustainability Report 2011* provides the latest industry-wide data on sustainability measures and some examples of the initiatives that member companies are pursuing.

Chris Leon

CIF Chairman

About Cement Industry Federation

The Cement Industry Federation (CIF) is the national body representing the Australian cement industry, and comprises the three major Australian cement producers — Adelaide Brighton Ltd, Boral Cement Ltd and Cement Australia Pty Ltd.

Together these companies account for 100 per cent of integrated clinker and cement supplies in Australia. Their operations are located in every state and territory, and include eight integrated cement manufacturing facilities as well as mines to service those facilities, and a national distribution network.

The industry employs more than 1600 people and produces close to 11 million tonnes of cementitious materials, with an annual turnover in excess of $2 billion. In Australia, the industry is responsible for around 6.5 million tonnes per annum of greenhouse gas emissions, the consumption of 2.3 tonnes of waste products of other industries (avoiding their need for landfill space).

Cement manufacturing sites are embedded in the community as they are typically long-term residents operating in excess of 50 years.

In collaboration with member companies, the CIF works to achieve the following vision:

To maintain a world-class, internationally competitive and sustainable Australian cement industry positioned to take advantage of emerging market opportunities, endorsed by a community licence to operate.

Scope

This report canvasses and discusses sustainability issues of materiality for the cement industry in Australia and provides an overview of sustainability status and direction for the industry as at 2011.

We focus on conveying the commitment of the industry to corporate citizenship, interactive with social, environmental and economic issues of the community through its processes and products through highlighting various case study examples.

Adelaide Brighton Cement Ltd

BORAL®

CEMENT AUSTRALIA

About cement

What is cement?

Cement is the 'glue' that binds aggregates together to form concrete, one of the key construction materials available today. Cement is an essential product for developing a modern standard of living.

Second only to water, concrete is the most consumed man-made material on earth, with three tonnes per year used for every person.

Location of integrated cement manufacturing sites.

Location of cement plants

Now, more than 120 years since the establishment of the cement industry in Australia, there are plants in all states and the Northern Territory. Cement plants are primarily located in regional centres and rural communities where they are significant direct employers. Additionally, the industry is a major user of local services for maintenance, supplies and construction activities. Indirect employment generated is about four times the direct employment bringing substantial economic benefits to local communities as well as the broader economy. As a consequence the cement industry is a major contributor to government revenue at the national, state and local levels.

Cement manufacture

Cement is made from a mixture of calcium carbonate (generally in the form of limestone), silica, iron oxide and alumina. A high-temperature kiln fuelled by coal, natural gas or other alternative fuels heats the raw materials to around 1450°c, transforming them chemically and physically into a grey pebble-like material called clinker. Ground with gypsum to the fine powder we know as cement, clinker comprises the special minerals that give cement its binding properties.

Australia is well suited and established to produce cement, with high technical standards of production, equipment and skilled personnel, and long-term resource supplies. The industry has innovated its manufacturing methods and engineering to enable the use of 2.3 million tonnes of community and industrial byproduct and waste to be utilised in the processes which prevents the need for landfill space and conserves natural materials.

Strategic aims for the industry vision

- Maintain an industry that is economically strong, delivering profit to shareholders, rewarding employees, and contributing to local communities through taxes and community activities while also taking responsibility for environmental and occupational health and safety concerns.
- Continue to deliver high-quality, competitively-priced goods and services that meet customers' requirements and the strictest product standards.
- Develop new cement products in response to society's changing social, environmental and economic needs.
- Ensure the health and safety of those involved in and affected by the production and use of cement are paramount in decision-making. Installation, transport, handling and operating procedures will continue to be designed to protect the health and safety of employees, contractors and local communities.
- Promote the industry as an attractive employer and build relationships of trust within the communities in which we operate.
- Evaluate choices within the broader context of sustainable resource management. Seek to use the by-products or waste products of other industrial, agricultural or municipal processes in our operations to replace fossil fuels and raw materials where possible and appropriate.
- Be involved in the waste management infrastructure of the communities in which we operate.
- Seek to use fuels and raw materials as efficiently as possible by designing installations using the world's best practice technology, and by continuously improving process control management systems, having regard to local and global environmental and economic factors.
- Use codes of practice for monitoring, managing and reporting impacts in key areas, in particular health and safety, carbon dioxide emissions, material substitution rates and environmental emissions.
- Continuously improve safety, health, environment, and quality management systems and train employees in the policies and procedures relevant to their roles.

Cement trade

Imports

Australian manufactured cement is a homogenous, bulk commodity that is world-traded. The Australian cement and clinker price is determined by international factors which are reflected in the 'import parity price'. Currently, Australia's cement plants only serve the domestic market and do not export. The capacity of these plants is fully utilised and imports are used to meet the demand.

Importation of clinker and cement is from the Asia–Pacific region—namely Japan, China, Indonesia, Taiwan, Thailand and Malaysia (see Figure 1). None of these countries face a carbon price.

Potential impact of imports

For maximum environmental and economic efficiency, cement kilns must run at capacity, it is not possible to 'turn the tap down'. In unfavourable economic conditions, the risk of imports displacing domestic production can be real. If only a portion of the kiln's capacity is displaced by imports a kiln is no longer economically or environmentally efficient to run.

Due to the capital intensive nature of the cement industry, foreign producers have enormous economic incentives to maintain high capacity utilisation rates and to sell any excess capacity to the Australian market at prices to cover variable costs plus transportation.

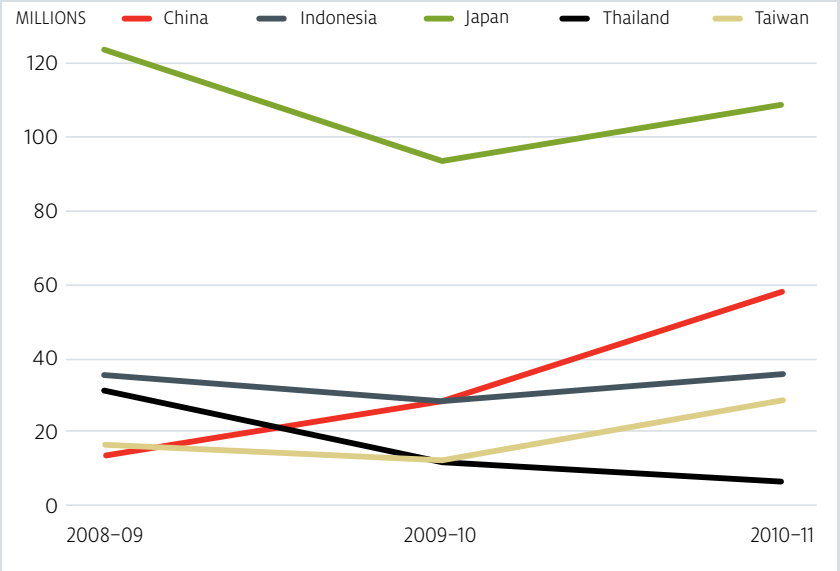
Future cement manufacturing investment

Under normal circumstances, as the economy and the Australian population increases, 'new' cement capacity would be built to replace imports that have filled the gap between demand and domestic supply.

Currently there is enough unmet demand for an increase in kiln capacity, however, the recent appreciation of the Australian dollar and an increase in input costs and government imposts on Australian industry have ensured such investment decisions are delayed.

Imports are typically sourced from South-East Asia.

Figure 1 Value of significant imports by country



Source: Australian Bureau of Statistics 2010

Climate protection and CO_2 management

In Australia, the cement industry is responsible for around 1.2 per cent of Australia's CO_2 emissions.

After almost two decades, the Australian cement industry has reduced carbon intensity of its cementious products by 23 per cent while increasing production by 50 per cent since 1991.

Cumulative abatement for the industry since 1990 is almost 2.5 million tonnes of CO_2. This result can be put down to the following key manufacturing endeavours:

- increasing kiln production capacities
- closure of small, old technology, inefficient cement plants
- striving for operational excellence and energy efficiency
- increasing the use of supplementary cementitious materials (SCMs) such as blast furnace slag and flyash
- increasing the use of alternative fuels such as carbon neutral biomass.

The cement industry has been active in CO_2 mitigation for two decades during which time the industry has been recognised as leaders in greenhouse gas reduction through participation in voluntary greenhouse gas reduction programs such as the Greenhouse Challenge Plus.

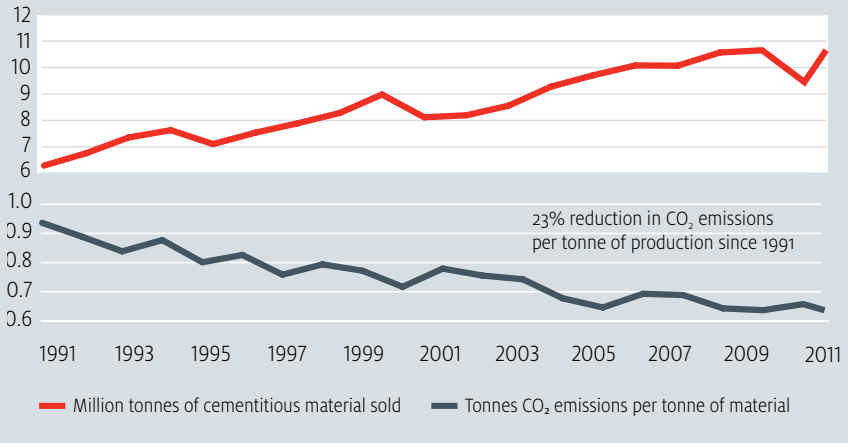
Now climate protection has become a large part of the regulatory requirements of manufacturing cement in Australia.

CIF members are participants in the Energy Efficiency Opportunities assessments; report emissions data to the National Energy and Greenhouse Reporting System, and will be liable entities under the Clean Energy Future Program to begin in July 2012.

Over and above these regulatory requirements, the cement industry have been highly active participants in the Asia–Pacific Partnership on Clean Development and Climate (APP) and the CIF is participating in the establishment of its replacement program, the Global Superior Energy Program (GSEP) which is in its infancy.

CIF members are also members in the Cement Sustainability Initiative (CSI), conducted under the auspices of the World Business Council for Sustainable Development.

Figure 2 Cementitious materials sales and CO_2 emissions



Emissions Trading Scheme

Over the last two decades, and in the absence of an emissions trading scheme, the Australian cement industry has demonstrated a high uptake of best available technology while remaining internationally price-competitive.

One of the more significant challenges for an emissions trading scheme, along with the setting of realistic targets is to ensure Australian cement producers

continue to maintain a competitive position with our neighbours, particularly those who do not share a high standard of environmental performance.

Under the current market circumstances, an emissions trading scheme will not lead to investment in further kiln capacity nor a reduction in CO_2 emissions, but import substitution, which may not be as 'emissions efficient' as Australia and will reduce employment opportunities in the Australian cement industry.

CIF has taken an active role in working with the Australian Government to shape Australia's policies on climate change as managing the business risks and opportunities within a carbon constrained economy is a major challenge faced by the industry and the community.

CIF will continue to assist the Federal Government in designing features of the Clean Energy Future package ahead of its formal implementation in 2012 and throughout the transition to a trading scheme.

Future technologies

Emissions trading schemes are designed to encourage the use of low emissions technology.

Notwithstanding the difficulties of remaining competitive while making these investments, analysis of the technology opportunities that will reduce the emissions related to clinker manufacturing are outlined in Table 1.

Table 1 Summary of Australian cement technology options for CO_2 abatement

TECHNOLOGY OPTIONS	PROCESS EMISSION REDUCTION	THERMAL EMISSION REDUCTION	ELECTRICITY REDUCTION
Existing improvements			
Shift to pre-calciner technology	✗	✓	✗
Shift to larger kiln sizes	✗	✓	✗
Electrical efficiency measures	✗	✗	✓
Short- to medium-term improvements			
Alternative fuels — waste utilisation / bio mass (Fuel emissions reductions)	✗	✓	✗
Cogeneration of electricity (Fuel emission reductions)	✗	✗	✓
Currently uncommercial electrical efficiency measures	✗	✗	✓
Long-term improvements			
Algae CO_2 capture	✓	✓	✗
Carbon capture and storage (Process emissions)	✓	✓	✗

Supplementary cementitious materials (SCMs) and cement extenders

Reducing the quantity of clinker required in cement and concrete, and as a result, the 'embedded' greenhouse gas emissions of the final product, can be achieved through the use of SCMs and through mineral addition.

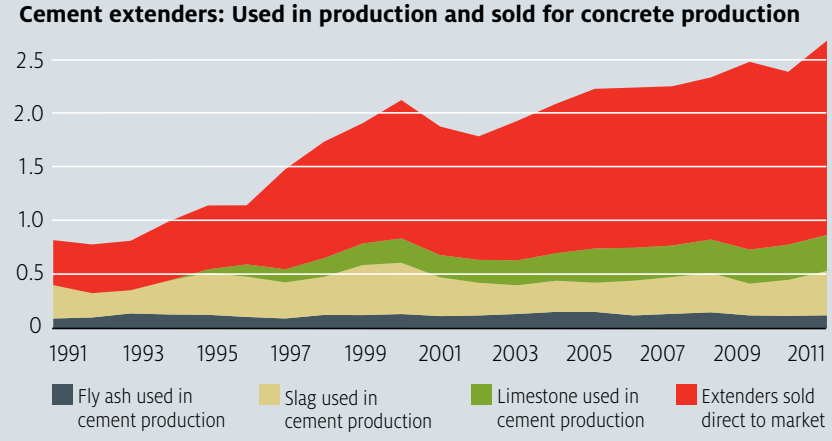
SCMs are unique materials that are not in themselves cementitious, but are latently hydraulic. They react with lime released during the hydration of Portland cement to form compounds with cementitious properties. These materials also provide the cement manufacturer with the ability to enhance characteristics and performance properties of the final concrete product.

Many SCMs originate as high-volume by-products of other industrial processes. Ground granulated blast furnace slag and fly ash — key SCMs for cement — arise as by-products of the steel industry and power generation industries respectively.

Increasing use of SCMs is an example of a real environmental win and highlights that greenhouse gas abatement can be compatible with the development of a sustainable industry.

According to the CIF annual survey the industry currently uses at least 2.6 million tonnes of SCMs such as fly ash and slag in cement blends or as sales direct to the readymix and concrete products markets. The CIF survey does not account for the growing share of SCMs being sourced directly by all users of SCMs. The Australian (Iron and Steel) Slag Association and the Ash Development Association of Australia also conduct surveys of their membership. Their survey results show that the cementitious use of coal combustion products and iron and steel slag is was 2.77 million tonnes in 2010.

Figure 3 Cement extenders: Used in production and sold for concrete production



In 2009, the cement industry set a goal of reaching 29 per cent use of SCMs by 2012. In a total cementitious market of 11 million tones, 2.77 million tonnes of cementitious materials is just over 25 per cent. To reach the 29 per cent goal it is likely that a further 500,000 tonnes of SCMs will need to be used. That rate may prove difficult to meet and maintain given that sources for SCMs may become more difficult to obtain as carbon constraints force closures of steel mills and coal fired power plants.

Mineral additions (cement extenders added during cement grinding) can displace clinker in the final cement blend reducing the need for the greenhouse gas emissions associated with clinker production.

Mineral addition as a cement extender is an efficient method for reducing greenhouse gas emissions, however customers must also be willing to accept higher percentages of mineral addition and be confident the product will perform to their expectation.

Australian and international technical data shows that cements with increased percentages of mineral addition can have equal performance to other cements.

An important milestone was achieved in October 2010 with the release of a new cement standard AS 3972 that allows for an increase, from 5 per cent to 7.5 per cent mineral addition.

Utilising the new standard to its maximum capacity would result in a greenhouse gas reduction of more than 114,000 tonnes of CO_2.

Further work is being undertaken to examine the optimal level of mineral addition. It is anticipated that further increases in mineral addition allowed under the standard will be increased beyond 7.5 per cent.

Energy efficiency

The cement industry is continually striving to remain competitive to ensure long-term commercial survival.

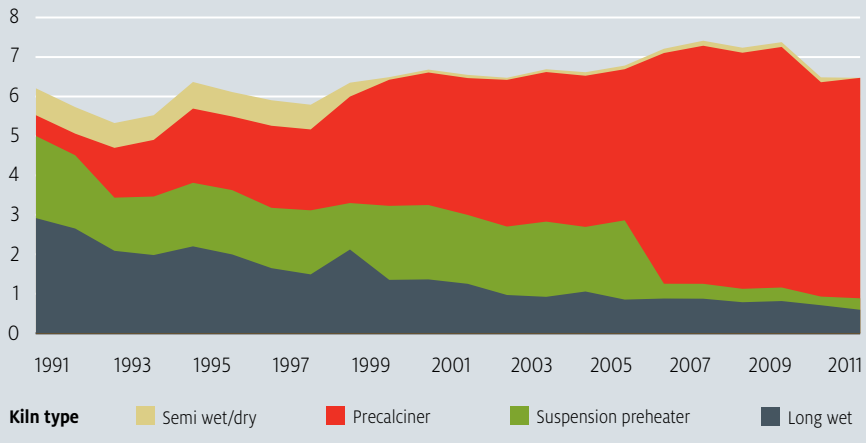
To remain economically and environmentally competitive, the industry has consciously engaged in striving for improvement through being a leader in the uptake of technology to maximise energy efficiency, increasing the use of by-products of other industries, reducing dependence on fossil fuels (which has the benefit of reducing greenhouse emissions) and in working in concert with the broader community.

From a global context the Australian cement industry, while small in size, has a high uptake of best technology (see Figure 4) .

Since 1990 there has been a 36.6 per cent reduction in fuel use and 12.3 per cent reduction in power use per tonne of cement. Improving energy efficiency is becoming much more difficult. Further improvements will rely upon upgrades of systems at a much finer scale than kiln technology type.

CIF member companies have investigated projects to improve energy efficiency under the Energy Efficiency Opportunities program that would save up to 1.6 million gigajoules of energy.

Figure 4 Domestic cement production by kiln type (million tonnes)



Responsible use of fuels and raw materials

A range of non-traditional or alternative materials can be used in cement production where such materials retain a calorific value (replacing traditional fossil fuels) or where there is a material substitution value (replacing natural raw materials).

All CIF member companies have alternative fuels programs for their plants.

Alternative materials are sourced from by-products of other manufacturing and community processes or from end-of-life products. Unfortunately, such materials are commonly classified as 'wastes' under existing state regulatory regimes and this can constrain legitimate resource conservation efforts.

The Cement Industry Federation is a strong supporter of the new National Waste Policy *Less Waste, More Resources*, which over the course of the next decade should break down regulatory barriers to the use of alternative fuels.

The industry is focused on identifying opportunities for utilising materials which retain value as either energy content and/or material substitution — where this value can be realised by the cement industry, and provided their use makes economic and environmental sense.

While the industry has been safely using these kinds of materials for many years, the inherent processes, practices and techniques are part of individual company procedures and not well known to the broader public. Stakeholders hold legitimate concerns about the kinds of fuels and materials being used by the cement industry, as well as the emissions produced. They want to know that they are properly managed, and that serious thought and effort goes into understanding, controlling and minimising risks to our employees and the communities in which we operate.

As a minimum standard, all CIF member companies follow the WBCSD's *Guidelines for the selection and use of fuels and raw materials in the cement manufacturing process*.

A resource recovery industry has emerged to divert concrete from landfill disposal and utilise it for other purposes such as road base and concrete aggregate, further conserving natural materials and extending product life.

Case Study

Waurn Ponds sewage sludge project (alt fuels)

Biosolids are the stabilised organic solids produced in wastewater treatment processes. The City of Melbourne produces around 40,000 tpa of dry biosolids each year. Melbourne Water has approximately 1.2 million dry tonnes of stockpiled biosolids located within the boundaries of its Western Treatment Plant. A legacy issue that must be addressed with any biosolids management strategy for the Western Treatment Plant is the presence of heavy metals in the biosolids, in particular, mercury.

The identified preferred energy recovery option is through processing in the Boral Cement manufacturing facility at Waurn Ponds near Geelong, Victoria. The use of biosolids in the cement manufacturing process is recognised globally as an opportunity to manage the waste and improve the sustainability of the cement industry.

A joint Melbourne Water/Boral feasibility study is nearing completion and examines the economic and technical issues relevant to utilising biosolids as an alternative energy source for the Waurn Ponds cement plant. The study has been sponsored by The Commonwealth of Australia though the Asia Pacific Partnership (APP) on Clean Development and Climate Change program and has been overseen by the APP Cement Task Force.

The study has found that it is feasible to utilise biosolids as an alternative energy source in the Waurn Ponds cement kiln. The construction and commissioning of a full scale biosolids handling and processing facility with mercury capture is technically achievable. The economic feasibility will be determined by negotiations to be undertaken by Melbourne Water and Boral Cement and will be based upon the knowledge developed from the feasibility study.

The project has demonstrated that up to 60,000 tpa dry tonnes equivalent of the biosolids can be utilised in the cement plant at Boral Cement Waurn Ponds with no detrimental increase in mercury emissions and a reduction in emissions of all other pollutants associated with cement plant emissions, including nitrous oxide, particulates, volatiles and heavy metals and greenhouse gases. The biosolids can be effectively used at the Waurn Ponds site to replace 25 per cent of the fuel requirement of the kiln and replace 36,000 tpa of raw materials.

Case Study

Adelaide Brighton (alt raw materials)

In 2010 the Cement and Lime Division of Adelaide Brighton consumed 41,518 tonnes of alternative raw materials, including:

- Air-cooled blast furnace slag was first trialled in Angaston's clinker production in 2007 and substituted 4000 tonnes of greenhouse gas emissions that year. While the program was not viable at the time, trials are now underway at Birkenhead so that blast furnace slag can be used at both plants.
- The cement plant at Angaston trialled the use of foundry sand as an alternative to soapstone, a natural resource, in the cement manufacturing process. The trial was successful and extended to Birkenhead. In 2010 the sites collectively used 9000 tonnes of foundry sand and the quantity is expected to increase as the process is refined.
- Alox, a byproduct from aluminium recycling, successfully substituted for clay at Birkenhead and plans are underway for a permanent Alox handling facility at the plant.
- Black sand, a by-product of metal smelting and mill scale from steel rolling is being used as a substitute for iron ore in kiln feed at Birkenhead.

Employee health and safety

Ensuring safe working conditions for employees and contractors is a fundamental part of corporate social responsibility and is critical for the cement industry.

Across the globe, Cement Sustainability Initiatives (CSI) members have recognised that more attention should be paid to this area. CIF member companies have made a significant commitment to improve safety performance in their companies.

At a minimum, CIF members comply with national and state safety legislation using customised systems and policies to ensure compliance and the instilling of a culture of continuous improvement.

Case Study

Cement Australia's SAFER on the GROUND

SAFER on the GROUND is an initiative to remove the need for Cement Australia drivers to leave the ground when doing their pre-start inspections, splitting/recoupling of the Prime Mover and Tanker/Trailer combinations and reaching behind cab tool boxes. The initiative follows the removal of tanker ladders and restrictions on access to the top of tankers.

Cement Australia's Road Transport Management Team identified that injuries were occurring as a result of trips, falls and strains whilst performing routine tasks as a result of drivers leaving the ground. Essentially the initiative required the development of a standard prime mover specification and a standard tanker/trailer rebuild specification that includes the requirement for all daily inspections, top ups, accessing the toolbox and coupling and decoupling to be achievable from the ground.

Along with the change of specification a standard prime mover pre-delivery hazard inspection program was developed to ensure any changes did not introduce new risk and hazards.

The rewriting of the prime mover specification required the input of major suppliers, Kenworth and Western Star, to ensure that they understood the requirements and took ownership through their involvement.

In early 2011 a SAFER on the GROUND Western Star compliant prime mover was shown to Cement Australia and a number of compliant prime movers have been delivered from both major suppliers throughout 2011.

The achievement of a completely compliant fleet of prime movers and tankers/trailers will take many years to achieve as some work can only be achieved during major refurbishments or when new equipment is ordered. Each compliant prime mover removes a number of risks faced by drivers on a daily basis.

Case Study

Boral iCare Safety Leadership Initiative

In September 2011, Boral Cement commenced the rollout of a Boral-wide safety leadership intervention called iCARE.

Senior leaders, including site managers and supervisors, have attended a one day iCARE Mastery course designed to reinforce four key leadership behaviours.

Key objectives of the course are:

1. being a role model
2. prioritising health and safety
3. actively seeking health and safety information
4. building and maintaining trust

The course will provide or reinforce iCARE philosophy and outline the expectations of all Boral employees, contractors and visitors to *care* for each other whilst at work.

The iCARE program measures ten elements of safety activity as follows:

1. Active monitoring
2. Take 5
3. Conversations
4. Observations
5. Boral Safety Management System compliance
6. SiteSafe (safety database) use
7. Risk Profile completion / reduction
8. Audit close-out
9. Hazard identification
10. Benchmarking

All cement sites will have an initial 'health' check assessment against these elements workshopped with the site management teams. They will assess their own performance and gain their initial benchmark upon which they will continue to improve as the iCARE program becomes further imbedded into the safety culture of the business.

The iCARE program is currently being implemented across all of Boral Limited businesses in conjunction with a newly developed, Boral-wide Safety Management System released in October 2011 following extensive consultation and trials across the business.

Local impacts

The Australian cement industry continues to recognise the vital importance of maintaining its 'community licence to operate', and has pursued this goal primarily through established community liaison groups which now exist at all CIF member company integrated clinker/cement operations. CIF member companies have adopted the Cement Sustainability Initiatives — Environmental and Social Impact Assessment Guidelines and have committed to utilising the guidelines as a reference point.

A range of local impacts resulting from plant operations require specific management by CIF member companies including water use, mine site rehabilitation, air quality monitoring, evaluation and improvement as well as noise management.

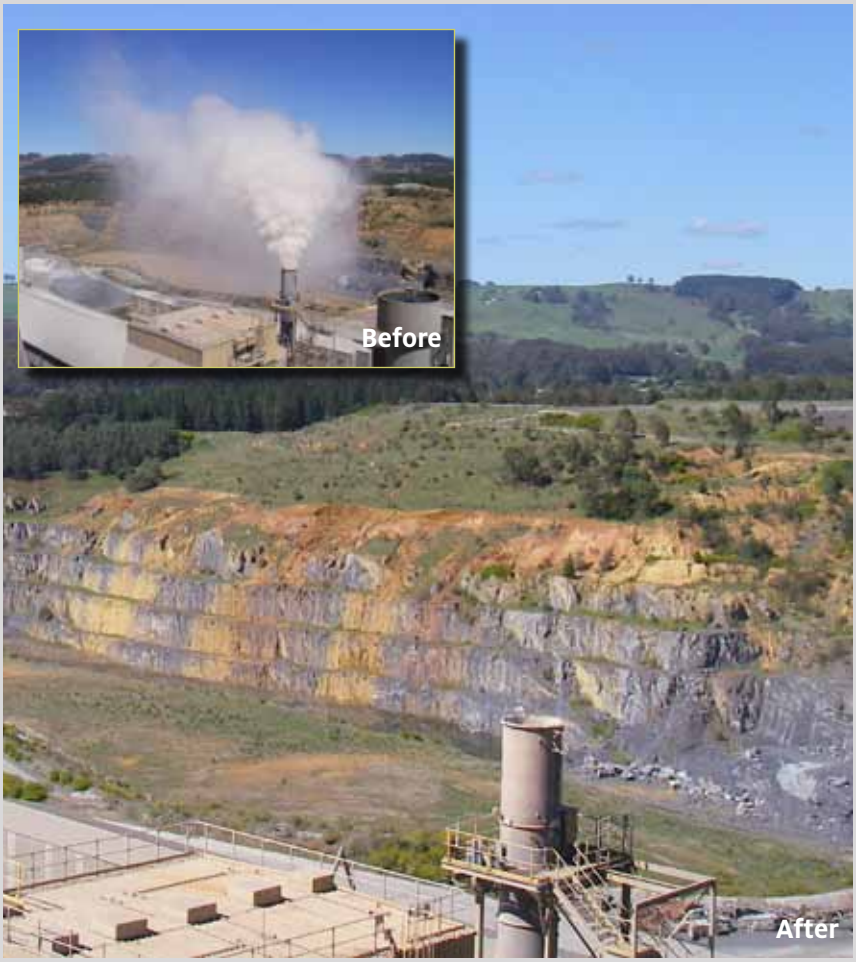
The Cement Industry Federation has included water consumption data in the annual survey since 2007 and member companies have taken an active interest in water consumption figures within their businesses.

Water consumption is down 10 per cent since 2009 and 25 per cent since 2007.

A change in the technology mix from wet process to dry process kilns has meant that water use by the cement industry is very low for an industrial process with total water use now only 1.9 Gigalitres across the industry.

Case Study

Railton Kiln Bag Filter Project



Dust control on the kiln stack at Railton was previously handled by two precipitators installed in 1965 and 1980. The precipitators were no longer able to meet the required standard for dust emissions. Both precipitators were replaced by a single modern bag filter.

The $19 million Railton kiln bag filter was commissioned in October 2009. This is the culmination of a long journey to bring dust emissions at the Railton site into line with world's best practice.

Dust emissions from the kiln stack have reduced from over 200mg/Nm3 to 2mg/Nm3.

Along with a new dust filter, a new 75 m stack was built alongside the bag filter to replace the two older and shorter stacks to ensure the plant meets future air quality standards.

Importantly, there has been no community complaint about dust since the bag filter was commissioned.

Case Study

Adelaide Brighton Water

The manufacture of cement uses water both directly in the process and indirectly for dust suppression and truck washing.

Activities to reduce water consumption are registered with state authorities' water efficiency programs and recorded in environment improvement plans.

Adelaide Brighton's investment in water reduction technologies and initiatives has reduced water demand by 15 per cent since 1996.

Additional water savings initiatives adopted across the cement and lime division of Adelaide Brighton Ltd include:

1. the planting of indigenous gardens
2. harvesting and storing water for low grade uses such as dust suppression
3. monitoring water consumption in real time to find opportunities for efficiency
4. educating the workforce about water conservation.

Alternative water sources are also sought. In a project that became a finalist for the Banksia environmental award in 2007, Angaston has been using waste water from a neighbouring bottling company.

This practice has provided a solution for the waste water from the bottling company and has contributed to reducing the Angaston site's mains water demand by 36 per cent.

Emissions monitoring and reporting

Over the last two years, CIF members have increased the frequency and extensiveness of emissions monitoring using improved methodologies and specifications. These improvements are in line with strengthened licensing requirements which have increased minimum standards.

Since 2010, the Cement Industry Federation has been actively engaged with the Department of Sustainability, Environment, Water and Communities on working towards a 'Global Legally Binding Agreement on Mercury' which is being negotiated under the authority of the United Nations Environment Program.

In 2010, a mercury removal pilot plant being tested at the Waurn Ponds cement plant was showcased to officials negotiating Australia's position to the agreement during a visit by a delegation of Chinese Government and industry officials involved in cement manufacturing.

Cement plants continue to operate under licence with conditions that limit the emissions of substances that are potentially harmful to people and the environment. These conditions have generally become higher over time.

Reporting and communications

The Australian cement industry communicates externally with their many and varied stakeholders.

In relation to reporting aspects, the CIF compiles an annual industry survey providing a snapshot in time of industry production and financial performance, as well as providing the necessary data to maintain our greenhouse emissions inventory.

The primary reporting of the results of this data is via an annual pocket-sized publication *Australian Cement Industry Statistics*.

The cement industry also reports emissions of pollutants to the National Pollutants Inventory and greenhouse gas emissions to the National Greenhouse and Energy Reporting Scheme which are both made available to the public and are subject to audit and verification processes.

Individual CIF members also have their own reporting and communications systems and requirements.

CIF sustainability roadmap

Climate protection

Achievements since 2009:

- Implemented a number of projects through the Asia–Pacific Partnership Cement Centre of Excellence.
- Worked collaboratively with the Australian Government to develop the Clean Energy Future carbon tax and emissions trading scheme.

New commitments from 2011:

- Work with the Global Superior Energy Forum to ensure technology opportunities are pursued world-wide.
- Responsible use of fuels and raw materials.

Responsible use of fuels and raw materials

Achievements since 2009:

- Worked collaboratively with government to establish the National Waste Policy: *Less Waste More Resources*.
- Increased the use of SCMs.
- Achieved change in the Australian Standard for cement to allow a greater percentage of mineral addition.

New commitments from 2011:

- Aim for an increase in the use of SCMs.
- Promote the National Waste Policy as the vehicle through which reform of environmental and resource conservation legislation should be pursued.

Employee health and safety

Achievements since 2009:

- Member companies have continued to improve health and safety protocols.

New commitments from 2011:

- Continually improve systems processes and employee awareness and engagement.

Emission monitoring and reporting

Achievements since 2009:

- Increased extensiveness and frequency of measurement, using improved methodologies and specification in line with increasing licence requirements.

New commitments from 2011:

- Work collaboratively with the Australian Government on the possibility of a legally binding agreement on mercury under the UN Environment Program (negotiations conclude 2013) and Australia's response to any negotiated outcome.

Local impacts on land and communities

Achievements since 2009:

- Promote greater focus on water and water efficiency, and reporting.
- Promotion and use of community engagement strategies such as Community Working Groups and Liaison Committees.
- Reduced water use by 10 per cent.

New commitments from 2011:

- Particular focus on issues resulting from urban encroachment.

Reporting and communications

Achievements since 2009:

- Biennial industry sustainability reporting.
- Independent review of emissions monitoring data and public communication of results at an industry aggregate level.
- Compliance with the NPI and NGERS reporting obligations.
- The completion of an assessment for eligibility for Emissions Intensive Trade Exposed Assistance for greenhouse reduction programs.

New commitments from 2011:

- Examine effectiveness of reporting tools and make changes where appropriate.

Credits

CIF Sustainable Development Taskforce

Adelaide Brighton Ltd
- Ros DeGaris

Boral
- Nicole Lawler & Richard Strauch

Cement Australia Pty Ltd
- David Cusack

Cement Industry Federation
- Margie Thomson & Todd Loydell