

Three PINs were for issues detected in early 2007 at BCSC Berrima cement works, which resulted in extensive audits by the NSW Department of Environment and Climate Change and the NSW Department of Planning and agreed corrective action plans.

Boral Australian Gypsum Ltd was convicted in March 2009 in the NSW Land and Environment Court for a water pollution offence. A fine of \$58,500 was imposed and \$23,000 paid for prosecution costs for the likely polluting of the Parramatta River with low hazard surfactant. An electronic level sensor probe failed to switch off supply from an external bulk tank, overflowing a smaller batching tank and containment bund. There has been extensive re-engineering of the process at the site to prevent any possible recurrence, and more aggressive hazardous liquids risk assessments are being applied across the division.

There were no fines or prosecutions in the USA or Asia for environmental contraventions in 2008/09.

Energy use and GHG emissions

Boral's operations consume a significant amount of energy and some businesses are particularly energy intensive. In 2008/09, greenhouse gas (GHG) emissions from Boral's fully owned businesses in Australia, the USA and Asia totalled 3.62 million tonnes of CO₂. In addition, approximately 0.18 million tonnes of CO₂ were emitted from Boral's equity share of joint venture businesses.

In 2008/09, there were an additional 122,000 tonnes of CO₂ as a result of: increased reporting scope, including additional contractor data required under NGRS; landfill gas emissions that were previously unreported; and emissions from the Oklahoma construction materials business which was acquired during 2007/08. Excluding the increased reporting scope, Boral's absolute GHG emissions in 2008/09 decreased by 8% year on year. This decrease in emissions largely reflects lower production resulting from the significant housing market downturns in the USA and Australia.

Emissions from Boral's US operations were down by around 41% on a comparable basis or around 147,000 tonnes of CO₂. In Australia, emissions were down 150,000 tonnes of CO₂ or around 4%. And in Asia, Boral's GHG emissions were down 22% or around 16,000 tonnes of CO₂.

All divisions, with the exception of Plasterboard, reduced their absolute emissions during the year largely as a result of the market downturn. Plasterboard's emissions increased marginally due to the commissioning of the new Pinkenba

plant, which for a period of time required two plants to be operating in Queensland before the Northgate plant was decommissioned.

During the year, most of Boral's plants were operating well below capacity and a program of rolling plant shutdowns was implemented in most businesses to manage inventory levels and reduce production to match lower demand levels. Alternative fuel and energy efficiency improvements that have been implemented across the business will deliver greater benefits as market volumes recover and production lifts.

In Boral's Quarry business in Australia, efficiency gains of 2% were delivered during the year, reflecting continued energy audits and energy efficiency programs.

The distribution of Boral's energy use and related GHG emissions across Boral's businesses is summarised in Figure 16. In 2008/09, around two thirds of Boral's emissions were from the Blue Circle Southern Cement business (BCSC). Approximately half of BCSC's emissions were from calcination, the chemical process of forming clinker from limestone at high temperatures. In addition to GHG emissions from calcination of limestone, some 2.2 million tonnes of emissions per annum result from Boral's electricity, gas, coal and diesel consumption.

In 2008/09, GHG emissions from cement clinker production per tonne of cementitious material sold declined by 1% and remain around 10% below 1990 levels. Emissions per tonne of clinker production was steady reflecting fuel efficiency gains offsetting inefficiencies associated with lower production (see page s32). The reduction in emissions per tonne of cementitious material sold reflects increasing use of cement substitute materials such as fly ash and slag and kiln efficiency gains over a longer timeframe.

Divisional performance (on pages s30 to s41) provides more detailed energy and emissions efficiency data specific to Boral's businesses.

In 2007, we set a climate change target to at least hold Boral's absolute greenhouse gas emissions steady and to offset any increase in emissions associated with market demand growth by reducing emissions per tonne of production. On a comparative basis, Boral's emissions in 2008/09 were 8% below 2006/07 emissions.

Boral's cross-divisional and cross-functional Energy and Climate Change Technical Working Group (ECCTWG) has been in place since January 2007. The ECCTWG reports to Boral's Management Committee and continues to manage a

To achieve an Industry Best Practice score of 3.0, Boral's businesses taken together should be able to demonstrate that the following goals have been achieved:

| BSDT element | Our goals |
|---|---|
| Energy conservation and climate change | <ul style="list-style-type: none"> Involved in voluntary, industry sector energy efficiency or greenhouse programs including target setting; looking at alternate technologies to lower emissions; have systems in place to measure emissions; and can demonstrate positive performance trends when being compared with peers. |
| Water conservation, extraction and protection | <ul style="list-style-type: none"> Have consumption and cost savings tracking integrated into business reporting systems; undertake water risk assessments for all sites; incorporate reduction targets for key sites; achieve performance improvements; and demonstrate positive performance trends when being compared with peers. |
| Waste and resource management, recycling and re-use | <ul style="list-style-type: none"> Monitor waste streams across key operational areas and report on these relative to operational efficiency; conduct risk analyses to determine risks and opportunities associated with waste management and resource allocation; incorporate waste reduction targets for key sites; introduce approaches to improve the sustainability performance of products throughout their lifecycle; and demonstrate meaningful improvements in key areas. |
| Land protection, remediation and rehabilitation | <ul style="list-style-type: none"> Have management systems in place and well-trained people to prevent land contamination; evaluate land contamination risks and have systems in place to identify land contamination hazards and risks and to manage contaminated land liability holistically; and have a good understanding of rehabilitation conditions with completion plans for site closures. |
| Environment and ecosystem protection | <ul style="list-style-type: none"> Have undertaken comprehensive biodiversity investigations and implemented protection plans for all relevant sites. |