

Environment

Our Environment continued

range of activities to prepare the business for future climate change impacts and an emissions trading environment.

Boral's businesses have undertaken a broad range of projects to reduce energy consumption and greenhouse gas emissions, and we have identified abatement opportunities in the areas of energy efficiency, renewable energy, alternate fuels and alternate materials. These potential projects have been consolidated into an overarching abatement cost curve to assist in prioritising opportunities and capital investments. The implementation of these abatement opportunities is dependent on the anticipated cost of carbon in a trading environment, the costs to Boral for implementing identified abatement initiatives and available technologies.

For a longer-term solution, we need to see the development of new technologies and fuel options. We are actively engaged in trials to develop such technologies. For example:

- During the year we doubled the number of concrete agitator vehicles from five to 10, in our trial to use compressed natural gas (CNG) rather than diesel. Results continue to indicate a significant cost reduction opportunity and a reduction of around 7% in GHG emissions per tonne of concrete delivered.
- In July 2009, through BCSC we signed a Memorandum of Understanding to work with Greenearth to explore geothermal energy opportunities at our Waurn Ponds cement works. The Waurn Ponds region is the most favourable prospect for hot sedimentary aquifer geothermal exploration in Victoria due to the proximity of the inferred resource to market. Whilst it is early days, it is possible that the project has potential to provide baseload renewable energy, low electricity distribution costs and carbon geological sequestration.
- Geological sequestration or carbon capture and storage has a number of location-specific constraints that may make it unworkable at many cement manufacturing works. There may be more potential in algal "biosequestration", which is an area of focus for the global cement industry. Through the Cement Industry Federation, Boral is actively involved in

global benchmarking and sharing of knowledge in this area at an international level.

Boral has been an active participant in voluntary energy efficiency and emission reduction schemes for more than a decade, including:

- Greenhouse Challenge Plus (member since 1997).
- NSW SEDA Energy Smart Business Program.
- DRET's Energy Efficiency Opportunities (EEO) Program (covering 18 sites representing 80% of Boral's emissions in Australia).
- NSW Greenhouse Gas Reduction Scheme (NSW GGAS).
- EPA Victoria Greenhouse Program (now Environment and Resource Efficiency Plans).
- NSW Department of Energy, Utilities and Sustainability's (DEUS) (now DECC) Energy Saving Action Plans.
- Californian Climate Action Registry (covering US Tiles).

Participation in these schemes generally requires Boral's businesses to establish improvement targets and develop action plans, which are audited as part of the program.

Boral is one of only seven elective benchmark participants in the NSW GGAS scheme that receives Large User Abatement Certificates (LUACs) for reducing GHG. Boral has created more than 637,000 LUACs since 2005, saving more than 163,000 tonnes of CO<sub>2</sub> in 2008. Under the NSW GGAS scheme, Boral also created around 62,500 NGACs in 2008 for reducing electricity consumption at Berrima and generating renewable electricity at our landfill operations (Boral Waste Solutions) in Victoria, avoiding the production of around 62,500 tonnes of CO<sub>2</sub>.

Boral Waste Solutions commissioned its third "Biogas to Energy" module at Deer Park in April 2009. This facility uses landfill gas to produce renewable electricity which is exported into the national grid. Commissioning of the third 1.1 MW generating module brings total electricity export capacity to 3.3 MW, which is sufficient to provide the electricity needs of around 3,000 homes.

Figure 16  
Boral's GHG emissions ('000 tonnes of CO<sub>2</sub>)

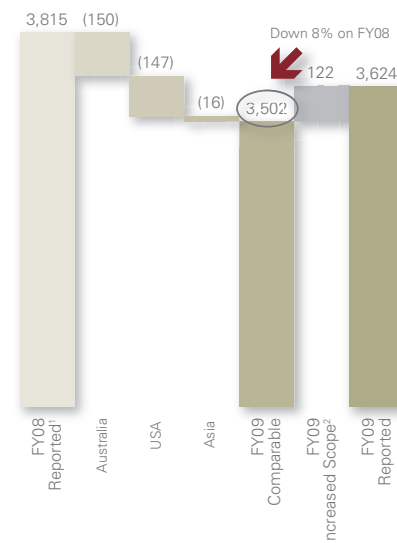
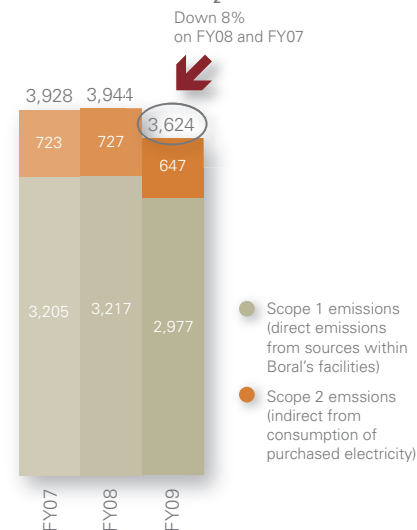


Figure 17  
Boral's restated<sup>3</sup> historical GHG emissions ('000 tonnes of CO<sub>2</sub>)



1 In Boral's 2008 Sustainability Report, Boral's 2007/08 GHG emissions were reported as 3.79 million tonnes. This restated figure reflects new reporting methodologies in Australia and the USA, enhanced data collection and review processes.  
 2 In 2008/09 reporting scope was increased to align with NGERs. Additional scope includes emissions from Boral's Deer Park Landfill operation, and previously unreported transport contractors and non-operating sites.  
 3 Restated 2006/07 and 2007/08 GHG emissions is based on the inclusion of additional NGERs reporting scope and methodology updates as used for 2008/09 data.