

# Environmental impacts

We operate a diverse portfolio of businesses across a broad geographic footprint. Many of these operations are resource-intensive, including our quarrying, manufacturing and transport businesses. To ensure our business is sustainable for the long term, we work to mitigate our environmental impacts.



**Our Environment Policy is to eliminate adverse environmental impacts and where elimination is not possible, seek to minimise our adverse environmental impacts.**

In addition to our overarching climate-related goals and targets, we have a range of business-level improvement plans and goals, including targets for improving water efficiency, reducing waste generation and increasing use of recycled materials in our products in Boral Australia. We are also working to better quantify and align targets and improvement plans across our divisions.

## Environmental compliance

Our policy is, at a minimum, to comply with environmental legislation, regulations, standards and codes of practice relevant to the particular business. We typically target better performance than laws require.

With more than 670 operating sites across a broad geographical footprint, Boral's environmental management systems and compliance programs are designed to accommodate local environmental requirements and business variations.

Operational and functional teams are responsible for ensuring compliance with environmental regulations. In Boral Australia, compliance is managed through an information management system for environmental requirements and regulations.

During FY2019, we conducted 60 internal environmental compliance audits in Boral Australia and 21 in Boral North America.

USG Boral conducts a range of compliance activities across its operations, focusing on the key areas of stack emissions and dust control, with annual audits conducted on burners and dust control equipment.

In addition, the Group HSE function undertook 16 audits across a sample of sites, assessing areas of environmental risk, including environmental compliance.

We target zero environmental infringements and strive to continuously improve our environmental management and performance.

During the year, we received nine infringement penalties across the Boral Group, totalling \$38,820. Seven of these infringements related to non-compliances in administrative arrangements, rather than causing environmental impacts. Two infringements related to:

- washing out two concrete agitator trucks on a roadside near Port Stephens in NSW, and
- the release of water from our Cedars Quarry at Mackay in Queensland that was outside our licence parameters, following Tropical Cyclone Debbie.

## WATER MANAGEMENT

Water supply is essential to our operations. We require fresh water for our concrete and plasterboard operations, while our quarry and asphalt operations can use recycled, brackish and/or process water. Water is used in manufacturing, for dust suppression, cleaning and sanitation.

In FY2019, we used about 4 gigalitres of municipal water, in line with the prior year.

In our more water-intensive concrete and plasterboard businesses, where product specification does not allow the use of recycled water, we are investing in researching and developing new products and mixes that require less water.

Over time, we have expanded the use of site-captured rainwater, which is supplementing our municipal supply. At our larger sites, including our quarries, captured rainwater is often the primary source of water and largely used for dust control.

In Boral Australia, we are developing systems to collect reliable and more comprehensive data on captured rainfall.

Across the Group, we are focused on improving water consumption per unit of output and ensuring we have plans to underpin delivery of our efficiency improvement targets, particularly in geographic areas of potentially high water stress.

Infringements and penalties	FY2019	FY2018	FY2017	FY2016
Number	9	6	10	9
Fines <sup>1</sup>	\$38,820	\$82,273	\$110,083	\$33,888
Penalties <sup>1</sup>	\$0	\$0	\$30,000	\$250,000
Undertakings	\$0	\$133,000	\$133,556	\$0

1. Regulators issue fines and the courts issue penalties.

# Environmental impacts

(continued)

Individual Boral sites may from time to time be exposed to the risk of drought, deluge or flooding. The risk of insufficient or excess water at our sites is discussed in relation to physical climate-related risks on pages 35–36.

When building or acquiring new facilities, our due diligence process includes assessing the risks to water quality from site discharges, and ensuring sufficient water availability and supply, which may require river catchment assessments.

Across the Group, a relatively small amount of process water is discharged to sewers for treatment by water authorities, in line with our existing licensing conditions at relevant sites. We have well-established internal compliance systems to prevent pollution of discharged waters, as well as numerous regulatory controls through licensing and permitting.

## WASTE MANAGEMENT

We strive to reduce waste within our operations, recycle the waste that we generate, and increase the recycling of materials from other industries as energy or raw materials.

Throughout Boral's operations, we reuse some materials in our production processes, including concrete washout, recycled asphalt pavement, and plasterboard waste from production and building sites.

Approximately 10% of Boral's revenue is derived from lower carbon and high-recycled-content products. A large proportion of this revenue is from our Fly Ash business in North America and Boral Recycling in Australia.

Opportunities to reuse production by-products and waste materials continue to grow and are being actively pursued. See pages 39 and 49 for some examples of how we are looking to use recycled materials likely headed for landfill as energy and raw materials.

Boral's businesses generate only small volumes of hazardous waste (such as waste oil) and this is managed in accordance with government regulations.

We use relatively small amounts of packaging, as the vast majority of our products are delivered in bulk. Boral businesses in Australia that do use some packaging are signatories to the Australian Packaging Covenant or fulfil the requirements of state regulations. Boral Cement, through its membership of Cement Concrete & Aggregates Australia, is a signatory.

## LAND MANAGEMENT, REHABILITATION AND REMEDIATION

We manage our quarries and land assets responsibly. For each of our extraction and operating sites, we carefully plan to mitigate any adverse environmental impacts – from development applications and operational land use to rehabilitation and end-use planning and development.

We have a substantial land footprint. Across Australia and the USA, we own or lease over 150 locations that are greater than 20 hectares in size, totalling more than 26,000 hectares.

At sites where we extract natural resources or manufacture products, we anticipate having to fulfil environmental rehabilitation and/or remediation obligations. These obligations relate to the future rehabilitation of sites, or clean-up of contamination we caused, at the appropriate point in the life cycle of these operations. They enable the ongoing use of the relevant land, either as an industrial property or for a higher value end use.

The anticipated future costs associated with remediating and rehabilitating sites are provisioned for in our financial statements, based upon our estimate of associated costs.<sup>1</sup>



Rehabilitation at Dunmore Lakes, NSW

## Biodiversity

Protecting the diversity of plant and animal species at and around our operational sites is a core component of our land management efforts.

Of Boral's operations, our Quarries business has the highest potential to contribute to but also mitigate biodiversity impacts.

All greenfield sites or expansions to existing operations undergo comprehensive internal and – where required – external assessments to identify biodiversity risks. When we identify risks we address them through a range of mitigation activities such as offsets (either on- or off-site) and biodiversity area enhancements.

We identify biodiversity risks associated with new operations through Boral's due diligence processes and address them in environmental impact assessments.


Biodiversity obligations that are integrated into site permits are audited under Boral's environmental audit program.

1. See note 3.6 of the financial statements in the 2019 Annual Report for details of the provision.

All sites identified as having biodiversity values have management plans in place in accordance with site-specific needs. Where appropriate, these include specific targets and timeframes.

Some examples of the many initiatives in place to protect biodiversity at Boral's sites include:

- collaborating with the Royal Botanic Garden Sydney in research on the endangered Illawarra Socketwood population at Dunmore Quarry in NSW
- maintaining koala fodder plantations at Narangba and Petrie quarries in Queensland, and
- participating in conservation work to provide habitat for the threatened legless lizard and spiny rice-flower at Deer Park Quarry in Victoria.

Through our community partnership with Conservation Volunteers Australia, we support conservation and education initiatives in our local communities. Refer to our website for more detail. 

## AIR QUALITY

Controlling air quality around our operations is our responsibility as a good neighbour, and is typically a regulatory requirement. Boral has many processes and systems in place to minimise air emissions across our operations.

Where we have identified that emissions are a significant risk or local community health concern, our operations have engineered and procedural controls, ranging from scrubber and filtering systems at major manufacturing sites (such as cement, bricks or plasterboard manufacturing), to simpler dust suppression measures such as water sprinklers that are typical of quarries and concrete batching plants.

Where relevant, Boral's operations have either continuous or scheduled air quality monitoring programs, and data is available to local communities through regulatory reporting or stakeholder engagement programs.

At a national level, Boral reports data on various emissions to the National Pollutant Inventory (NPI) and the National Greenhouse and Energy Reporting Scheme (NGERS) in Australia.

## Berrima Colliery closure

In 2013, Boral ceased coal extraction at the small-scale Berrima Colliery in the Southern Highlands of NSW, after nearly a century in operation.

The colliery has since been in care and maintenance mode as we work on an agreed closure plan with the NSW Resources Regulator, NSW Environment Protection Authority and other relevant agencies – and with the local community by way of our Closure Working Group.

This process includes ongoing monitoring and testing of groundwater that naturally runs through the disused mine, and of water quality in the Wingecarribee River, upstream and downstream of the mine's licensed discharge point.

Since December 2017, we have operated an underground water treatment system that has successfully improved the discharge water quality and subsequent visual appearance of the Wingecarribee River downstream of the discharge point.

In FY2019, we progressed with installing a number of underground bulkheads to sustainably manage groundwater over the long term. We will monitor the effectiveness of these bulkheads, and their impact on the volume and quality of water flows.

## MANAGING THE RISKS AROUND DAMS

Following the experiences of tailings dam failures at other major companies, we reviewed the risks associated with impoundments and small dams at our operations.

Although our dams are substantially smaller than those involved in these incidents, we completed a desktop assessment of the risks associated with extreme weather, including rainfall deluge, at sites with some form of constructed impoundment wall.

We identified a small number of sites that warranted further investigation. We are actively managing these sites, including by implementing additional engineering controls to ensure we manage risks within accepted standards.

We intend to undertake a formal Group-wide review of the risks associated with impoundments at least every three years. We will also continue to monitor global events to identify potential learnings, including by benchmarking good practice among industry peers.



Small dam at Lobethal Quarry, South Australia