Build something great™

Results Announcement

for the half year ended 31 December 2019

Management Discussion & Analysis

20 February 2020

1HFY2020 results summary

Commentary throughout this Management Discussion & Analysis, unless otherwise stated, is based on earnings excluding the impact of the new IFRS leasing standard (AASB 16) in order to provide a more comparable basis for analysis with the prior half year. In addition, the prior half year results have been restated, resulting in an adverse US$7m (A$10m) adjustment to EBITDA in 1HFY19 to reflect the correction of Windows misreporting in underlying earnings.

Revenue steady and EBITDA down 8%. Cost reduction initiatives and $29m of Property earnings helped to reduce the impact of lower volumes

- **Revenue of $2,989m** steady on prior corresponding period (pcp)
- **EBITDA**[1,2] of **$439m** declined 8% on pcp
- **EBITDA**[1,2] **margin of 14.7%** (15.9% pcp)
- **Statutory NPAT**[2] of **$139m** down 39% on pcp; and **underlying NPAT**[1,2] of **$159m** down 18% on pcp
- **EPS**[1,2] **of 13.5 cents** (16.4 cents pcp)
- **Interim dividend** of **9.5 cents per share** (50% franked); DRP reactivated with interim dividend
- **Operating cash flow** of **$192m** down 24% on pcp
- **ROFE**[1,3] of **7.3%** (8.0% pcp)
- **Reported Statutory NPAT (which includes AASB 16 impact) of $137m** is after **significant items of $20m,** which include restructuring costs, USG Boral transaction costs and final Headwaters integration costs.

Divisional overview[1]

- **Boral Australia** – With a 23% decline in housing starts and 7% lower concrete volumes, revenue from continuing operations declined 2%. EBITDA of $267m was 1% lower, as cost savings of $30m helped to offset volume pressures and higher costs associated with outages at Peppertree Quarry and Berrima cement. Property earnings of $29m also helped to underpin the result. Excluding Property, EBITDA was down 12%.
- **Boral North America** – Revenue was up 4% to US$825m and EBITDA of US$111m down 17% for continuing operations[4]. Light Building Products growth, higher Fly Ash volumes and prices, and US$7m of synergies, were offset by US$10m of one-off costs including US$4m in Windows, and lower earnings from Stone, Fly Ash site services and Meridian Brick. Roofing was broadly steady.
- **USG Boral** – Underlying EBITDA down 8% to $115m and Boral's post-tax earnings contribution of $23m was down 8%. Strong earnings growth in China and higher earnings in Thailand were offset by a market driven decline in South Korea and softer earnings in Australia.

Strategic objectives

- **Safety** – Recordable injury frequency rate[5] of 7.2 was a 4% improvement on FY19. However, lost time injury frequency rate[5] of 1.8 deteriorated from 1.3 in FY19 and 1.1 in 1HFY19, largely driven by increased contractor injuries in Australia. Boral's unwavering focus on safety reflects a commitment of delivering Zero Harm Today.
- **Returns on capital** – Boral's return on funds employed (ROFE)[1,3] excluding the impact of the new leasing standard, was 7.3%. Boral Australia's ROFE of 14.5% is well above Boral's equivalent cost of capital ROFE of ~9.0%. USG Boral's ROFE of 7.6% reflects cyclical softness. Boral North America's ROFE was 4.5% with plans in place to substantially improve returns to above cost of capital ROFE through the cycle.
- **Strategic growth** – Headwaters acquisition synergies of US$7m in 1HFY20, adding to US$71m of synergies already delivered against a total synergy target of US$115m. Continuing to await regulatory approval to complete the USG Boral transaction with Knauf, which is expected in 2HFY20.

FY2020 Outlook: Taking into account the first half results, Boral expects its FY2020 EBITDA to be down relative to FY2019, with lower reported EBITDA in all three divisions.

Together with higher depreciation costs, this translates to **an expected NPAT[1] range of around $320-$340m for FY2020,** which compares with an NPAT[1] of $420m for FY2019 after adjusting for Windows misreporting.

This is before the impact of additional earnings from the announced USG Boral/Knauf transaction and before the impact of accounting changes resulting from the adoption of the new leasing standard (AASB 16).

Footnotes appear at end of document

Group financial overview

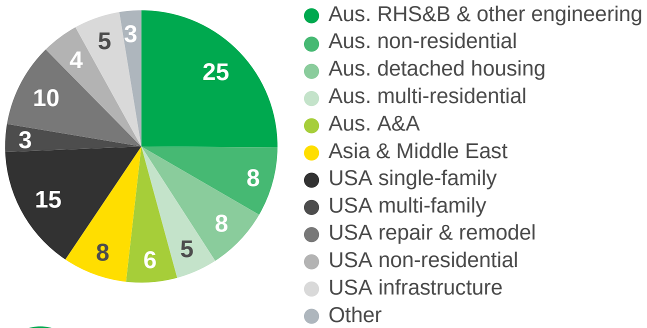
(A$m) Figures may not add due to rounding		1H FY20 Reported	1H FY20 ex.leases	1H FY19*	Var % ex.leases
Revenue	– total operations basis	2,989	2,989	2,990	-
	– continuing operations basis	**2,960**	**2,960**	**2,897**	2
EBITDA[1,2]	– total operations basis	493	439	475	(8)
	– continuing operations basis	**493**	**440**	**470**	(6)
EBITA[1,2]		283	277	319	(13)
EBIT[1,2]		252	246	287	(14)
– ROFE[1,3], %		*7.0*	*7.3*	*8.0*	
Net interest		(61)	(52)	(49)	(7)
Tax[1]		(34)	(35)	(46)	24
NPAT[1,2]		**156**	**159**	**192**	(18)
Significant items (gross)		(24)	(24)	53	
Tax on significant items		4	4	(16)	
Statutory NPAT[2]		**137**	**139**	**229**	(39)
NPATA[1,2]		179	182	216	(16)
EPSA (cents)[1, 2]		15.3	15.5	18.4	(16)
EPS (cents)[1,2]		13.3	13.5	16.4	(18)
Dividend (cents)		**9.5**	**9.5**	**13.0**	(27)

** 1HFY19 results have been restated to reflect the correction of Windows misreporting in underlying earnings.*

- **Revenue of $2,989m** was steady and **EBITDA**[1,2] **of $439m** was down 8%.
- **Depreciation and amortisation** of $193m was 3% higher following the completion of several generational capital investments in prior periods. **Interest expense** increased 7% to $52m.
- **Income tax expense** declined $11m to $35m, resulting in an **effective tax rate of 18%** for the half year. Excluding the benefit of further recognition of previously unrecognised US tax losses and utilisation of capital losses, the effective tax rate was 23.6%.
- **Interim dividend of 9.5 cents per share (50% franked),** to be paid 15 April 2020, representing a payout ratio of 71%. The **dividend reinvestment plan (DRP)** has been reactivated and the interim and final dividends will be underwritten.
- **A net loss of $20m for significant items** primarily reflects $5m of net costs associated with Australian cost reduction and rightsizing programs, net legal and consulting costs related to the USG Boral/Knauf transaction of $8m and final Headwaters net integration costs of $7m.
- **Operating cash flow of $192m was down 24%**, primarily reflecting lower earnings in the half year.
- **Capital expenditure of $189m** ($114m of stay-in-business and $75m of growth expenditure) was up from $183m in the prior period and included investments in the new Port of Geelong clinker import terminal in Vic, various quarry and plant upgrades, and the new US Windows plant.
- **Excluding lease liabilities, net debt at 31 December 2019** was $2,322m, up from $2,193m at 30 June 2019. **Including lease liabilities, net debt at 31 December 2019** was $2,714m. Boral is well within its funding covenants, with Boral's principal debt gearing covenant (gross debt/ (gross debt + equity)) of 30% well within the threshold of less than 60%. Gearing (net debt/(net debt + equity)) including lease liabilities was 32% at 31 December 2019, up from 27% at 30 June 2019. **Excluding lease liabilities**, **gearing (net debt/(net debt + equity) was 29%.**

Market conditions and external impacts

Boral 1HFY20 external revenue[6] by market, %



Australian RHS&B infrastructure activity remains solid but residential market declined; Australian bushfires impacting more in 2H

Strengthening US housing, softer conditions in non-residential markets and infrastructure

Mixed market conditions in Asia

Australia

Boral Australia's largest exposure is to **roads, highways, subdivisions & bridges (RHS&B)[7]**. Forecasts for RHS&B value of work done is for the industry to expand by 5% in FY2020, with growth of 6% in NSW, 4% in Vic, 4% in Qld and 13% in WA. Activity in SA is expected to decline by 8%. **Other engineering** activity[7] is forecast to decline by an estimated 5%, as strong activity in NSW and WA is offset by lower activity levels in Qld, Vic and SA.

In 1HFY20, Australian **housing starts**[8] declined 23% to an estimated 169,000 annualised starts, from 218,000 starts in 1HFY19. **Detached housing** starts are estimated to be down 15%, with **multi-residential** starts down 33%. On a state by state basis, housing starts declined 33% in NSW, 23% in Qld, 17% in Vic, 7% in WA and 2% in SA.

Australian **alterations & additions** (A&A) activity[9] declined by an estimated 8%.

Non-residential activity[9] grew by an estimated 3% with higher demand in NSW, Qld and WA. Activity was 4% lower in Vic and 8% lower in SA.

In FY2020, market forecasters[10] on average expect **housing starts** to be ~164,000.

While **concrete volumes** are expected to remain at historically higher levels, Macromonitor[11] is currently forecasting FY20 concrete industry volumes to reduce ~5% nationally and ~9% in NSW, ~3% in Vic and ~2% in Qld. Macromonitor[11] is forecasting **asphalt industry volumes** to remain high in FY20 with further growth in the next 2-3 years.

Bushfires in Australia: In late 2019 and early 2020, Australia experienced catastrophic bushfires, fueled by drought. Our people remained safe throughout the crisis and we did not experience any significant fire-related damage to plant or equipment.

We did however, experience business interruption including temporary closures and evacuation orders at a number of sites in our Timber, Roofing and construction materials operations as a result of fires.

Selection of Australian project work and potential pipeline

Barangaroo – Crown Casino, NSW	Est.completion FY20
Logan Motorway – Enhancement works, Qld	
NorthConnex, NSW	
Northern Road – Stages 2 & 3, NSW	
North South Corridor, SA	
Pacific Motorway M1 M3 Merge, Qld	
RAAF – East Sale, Vic	
Sydney Metro rail, NSW	
Norfolk Island Airport, Qld	Est.completion FY21
Melbourne Metro Rail Project (Precast), Vic	
Queens Wharf – resort development, Qld	Est.completion FY22
WestConnex 3B (above ground, early works) NSW	Est.completion FY23
West Gate Tunnel, Vic	
Road Asset Management Contracts, Qld	Est.completion FY24
Bruce Highway, Haughton River Floodplain, Qld	Tendering
Bruce Highway, Cairns Southern Access Corridor, Qld	
Cross River Rail, Qld	
DPI Roadwork Network maintenance, SA	
Kidston Hydro Project, Qld	
Inland Rail Project, (Section 7), NSW	
North East Link, Melbourne, Vic	
North South Corridor, SA	
Snowy Hydro 2.0, NSW	
Suburban Roads upgrade (SRU) North, South East & West, Vic	
Sydney Gateway Project, NSW	
Sydney Metro (Victoria Cross Station), NSW	
Sydney Metro (Martin Place Station), NSW	
Tonkin Highway extension, WA	
Bruce Highway upgrade, Qld	Pre-tendering
Forest Wind Farm, Qld	
Inland Rail Project, Qld, NSW & Vic	
Pacific Motorway M1 upgrade, Qld	
Sydney Metro, West extension. NSW	
Sydney Stewardship Maintenance, NSW	
Warragamba Dam raising, NSW	
Western Sydney Airport, NSW	

Market conditions and external impacts (continued)

We also experienced higher costs with many of our quarries required to purchase water to maintain production. Some of our purchased water and site water was also used to assist fire-fighting efforts.

Boral incurred approximately $1m in direct costs associated with the fires and exceptionally dry conditions in 1HFY20. In 2HFY20 the fires caused considerable disruption and delayed the construction industry returning to work following the traditional Christmas / January holiday period. Boral's Concrete volumes for the start of 2HFY20 were substantially lower than pcp due to bushfires and extreme weather, with January volumes down ~30%.

Some 2H tendering work is also expected to be delayed such as the Snowy Hydro project, which will postpone forecasted industry volumes from FY21 into FY22.

Significant areas of State Forests were lost to the fires, impacting NSW Forestry Corporation's (NSWFC) ability to supply logs to Boral Timber as part of our wood supply agreement. We have several months of raw material and finished goods inventory, but log supply constraints are likely to impact the business in the future. Through NSWFC, we are working with regulators to understand the impact and assess if we can help recover material from fire damaged logs.

We have eight Hardwood mills and one Softwood mill in NSW. The Softwood business was not directly impacted by the fires.

USA

US housing starts[12] increased ~13%, with a significant lift in December, to an annualised 1.36m starts with single-family starts up ~10% and multi-family starts up ~20%.

In other US markets, both the **repair & remodel**[13] and **non-residential**[14] construction markets were lower by an estimated 1% and **US infrastructure**[15] activity, based on estimated ready mix concrete volumes, increased 3%.

In FY2020, on average, market forecasters[16] expect total US housing starts to grow by ~5% to ~1.29m starts.

In FY2020, **US repair & remodel**[17] is expected to be flat, **US infrastructure**[18] to grow by ~3% and **non-residential** activity[19] to decline by ~3%.

Asia[20]

South Korean residential construction declined further following government initiatives to tighten mortgage lending. As expected, residential activity (particularly multi-res) and plasterboard demand contracted in the first half.

In **China**, the pace of economic growth slowed due to regulatory controls, tighter lending policies and ongoing uncertainty in relation to US-China trade relations. The Coronavirus will also dampen growth in the short term.

In **Indonesia**, economic growth is slowing and the plasterboard market is growing at low single digit levels.

Thailand construction activity was subdued, while **India** continues to grow. Conditions in **Vietnam** are mixed, with retail market growth offsetting weakness elsewhere.

Coronavirus: We are monitoring information and advice in relation to the coronavirus outbreak to ensure the health and safety of our people. We are also monitoring potential direct and indirect impacts on our business. Our plants in China have been closed since Chinese New Year and we are planning to return to work as soon as possible. There is potential for capital projects in Australia to be impacted by equipment held up in China, including at our Geelong clinker storage facility and USG Boral's replacement cornice plant. There is also potential for disruption to customers' commercial projects. Such impacts are not factored into our outlook.

Divisional reviews

(A$m) Figures may not add due to rounding	Sales revenue		EBITDA[1]		EBIT[1]	
	1HFY20	1HFY19	1HFY20	1HFY19	1HFY20	1HFY19
Boral Australia	1,752	1,794	267	270	158	168
Boral North America	1,208	1,104	163	185	80	105
USG Boral (Boral's 50% post-tax earnings)	–	–	23	25	23	25
Corporate	–	–	(13)	(10)	(13)	(10)
TOTAL (continuing operations basis)	**2,960**	2,897	**440**	470	**248**	288
Discontinued (Bricks & Denver CM & Block)	29	93	(1)	5	(2)	(1)
TOTAL reported (total operations basis)	**2,989**	2,990	**439**	475	**246**	287

Boral Australia

Concrete & Placing, Asphalt, Quarries, Cement, Transport, Property, Building Products (Timber, Roofing)

(A$m)	1HFY20	1HFY19	Var%
Revenue	1,752	1,794	▼2
EBITDA[1]	287	270	
EBITDA[1] *ex.leases*	**267**	**270**	▼1
EBITDA[1] ROS ex.leases	15.3%	15.0%	
EBIT[1]	160	168	
EBIT[1] *ex.leases*	**158**	**168**	▼6
EBIT[1] ROS ex.leases	9.0%	9.4%	
ROFE[1,3]	13.9%	16.4%	
ROFE[1,3] *ex.leases*	14.5%	16.4%	
Property	29	(3)	
EBITDA[1] ex.Property & leases	**239**	**273**	▼12
EBITDA[1] ROS ex.Property & leases	13.9%	15.2%	

Figures may not add due to rounding

(A$m)	External Revenue		EBITDA ex. leases
Concrete & Placing	813	▼6%	▼
Asphalt	387	▲3%	▲
Quarries	221	▼1%	▼
Cement	162	▼1%	▼
Building Products	114	▼18%	▼

The following commentary is based on earnings excluding the impact of the new IFRS leasing standard (AASB 16).

Revenue down 2% and EBITDA down 1% due to lower concrete volumes, higher costs and subdued prices.
Excluding Property, EBITDA was down 12%. Cost savings of $30m partly offset the impacts of lower activity

Revenue decreased 2% to $1,752m with a higher contribution from Asphalt, primarily offset by lower revenues in Concrete and Building Products. A 23% decline in housing starts – particularly impacting activity in eastern states, and the completion of several major projects in NSW and Qld impacted revenue.

A higher contribution from Property and cost reduction initiatives across the business helped to underpin the result.

Overall, like-for-like (LFL) prices were steady in Cement and Quarries, and slightly softer in Concrete.

EBITDA declined 1% to $267m. A strong Property contribution of $29m and ongoing efforts to reduce overheads, align our operations with demand and optimise margins, underpinned the result. Cost savings were realised through a combination of **excellence and improvement programs**. Further initiatives to aggressively control spend, improve operational efficiencies and accelerate procurement savings were also implemented.

The realisation of $30m in cost savings substantially helped to offset the impact of a 7% decline in concrete volumes, and higher one-off costs of ~$10m associated with outages at Peppertree Quarry and Berrima Cement operations, and $1m of direct costs associated with the bushfires.

Excluding Property, EBITDA was down 12% and margins were 13.9%. The impact of the new leasing standard on ROFE was most notable for Boral Australia. The division delivered a **ROFE** of 14.5% and excluding Property ROFE was 12.3%, which remains well above Boral's equivalent cost of capital ROFE of ~9.0%.

Major projects contributed around 10% of total revenue in the half. The share of revenue from RHS&B plus other engineering remains high at 43%, up from 40% in 1HFY19. Boral supplied materials to a number of projects in 1HFY20, including concrete to the Sydney Metro project in NSW, and asphalt to a number of large roadwork projects including Logan Enhancement and Mudgeeraba to Varsity Lakes upgrade in Qld. We supplied both concrete and asphalt to other roadworks, including Northern Road and Pacific Highway in NSW.

In 2HFY20, we expect supply to the Queens Wharf Project and Norfolk Island Airport, both in Qld, to ramp up together with the Northern Road project in NSW. While contractual arrangements to supply concrete to the Westgate Tunnel project in Vic were finalised, the project has been delayed, and we have seen some general delays in the second half in part due to the bushfires in December and January.

Boral Australia (continued)

Concrete & Placing revenue and earnings declined primarily due to the combination of concrete volumes and softer pricing. The Placing business reported strong revenue growth and higher earnings due to major pours, including at the Crown Sydney project at Barangaroo, Wynyard Place and Parramatta Square in NSW. A higher proportion of technical work helped the Placing business grow share and improve margins.

1HFY20 vs 1HFY19 variance %			
	Volume[21]	ASP Price[22]	LFL Price[22]
Concrete	(7)	(1)	(1)
Quarries	(6)	2	steady
Aggregates	(13)	4	steady
Cement	(1)[23]	(1)[24]	steady[24]

Concrete volumes declined 7% due to softer multi-residential activity, especially in NSW, and the completion of a number of major projects such as Amrun, Amberley and the Toowoomba Second Range Crossing in Qld. Other projects such as NorthConnex in NSW and the Forrestfield Airport Link in WA were completed ahead of the commencement of other projects.

Nationally, on average concrete LFL prices were down 1%.

Quarries reported lower revenue and earnings with volumes (internal and external) down 6% due to the completion of major projects in NSW (North Connex) and SA (North Connector), and reduced project activity in Qld. Lower aggregate volumes largely reflect reduced project activity and softer concrete volumes.

The unplanned disruption at our Peppertree Quarry in Q1 resulted in higher costs as we transported volumes from other sites to maintain supply to our customers. The disruption and subsequent remediation works at Peppertree resulted in one-off costs of ~$5m. Higher direct costs of approximately $1m were incurred in December as a result of the bushfires.

On a LFL basis, pricing was steady.

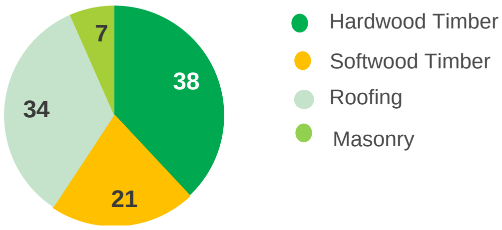
Asphalt earnings recorded a solid improvement driven primarily by the commencement of major projects such as Norfolk Island, Emerald and RAAF East Sale Airports. Other major projects also contributed to revenue and earnings in the half year as noted on the page 5.

Cement revenue and earnings were lower. Earnings were impacted by unscheduled downtime at our Berrima Kiln resulting in additional costs of ~$5 million, a lower equity contribution from our Sunstate JV, and higher fuel and clinker costs, which were only partly offset by realised cost savings.

Property reported EBITDA of $29m in line with our guidance, primarily driven by the recognition of earnings from the Scoresby property development. Property earnings were up $31.6m compared to the prior corresponding half year.

Building Products (Timber & Roofing) reported a significant reduction in revenue and weaker earnings due to lower volumes and softer prices in Timber (especially Softwood), which offset the benefit of cost savings and higher ASP outcomes in Roofing and Masonry.

1HFY20 Building Products revenue%



Excellence and improvement programs

We continue to focus on delivery of our **Commercial Excellence** program which is delivering benefits across most businesses. Despite challenging market conditions, our programs are helping to maintain prices.

In 1HFY20, a total of $30m of cost saving benefits were delivered through our **Organisational Effectiveness (OE)** program, regional rightsizing, and a range of value improvement projects and initiatives to boost earnings in FY20, together with our multi-year **supply chain optimisation program** which contributed around $10m of those savings in the half year.

For the full year FY20, we expect to deliver in excess of $80m of savings through OE, rightsizing, supply chain optimisation and additional value improvement projects, including procurement.

Boral North America

Fly Ash, Roofing, Stone, Light Building Products (LBP), Windows & Meridian Brick JV
(Note: Denver Construction Materials divested 2 July 2018 and US Block divested 30 November 2018)

CONTINUING OPERATIONS

(A$m)[25]	1HFY20	1HFY19	Var %
Revenue	1,208	1,104	▲9
EBITDA[1]	197	185	
EBITDA[1] *ex.leases*	**163**	**185**	▼12
EBIT[1]	85	105	
EBIT[1] *ex.leases*	**80**	**105**	▼23
(US$m)			
Revenue	825	796	▲4
EBITDA[1] *ex leases*	**111**	**134**	▼17
EBITDA[1] ROS ex.leases	13.5%	16.8%	
EBIT[1]	58	76	
EBIT[1] *ex.leases*	**55**	**76**	▼27
EBIT[1] ROS ex.leases	6.7%	9.5%	
ROFE[1,3]	4.3%	4.4%	
ROFE[1,3] *ex.leases*	4.5%	4.4%	

Figures may not add due to rounding

(US$m)	External Revenue		EBITDA ex. leases
Fly Ash – total	290	▲5%	▼
– *Fly Ash sales & other*	*242*	▲16%	▲
– *Site services*	*48*	▼26%	▼
Roofing	174	▼3%	~
Stone	125	▼7%	▼
Light Building Products	143	▲7%	▲
Windows	93	▲29%	▼

The following commentary relates to continuing operations and excludes the impact of the new IFRS leasing standard (AASB 16).

Revenue up 4% to US$825m but EBITDA of US$111m was down 17% for continuing operations with mixed results and higher costs (including one-off costs of US$10m)

Revenue was up 4% to US$825m (up 9% to A$1,208m) largely driven by growth in Light Building Products, Fly Ash sales and Windows. **EBITDA declined 17% to US$111m** for continuing operations (down 12% to A$163m).

Earnings growth in Light Building Products and Headwaters synergies were offset by softer earnings in Stone and Fly Ash site services, a lower contribution from the Meridian Brick JV, and one-off costs.

Overall, price increases were insufficient to offset higher costs. The business incurred one-off costs of ~US$10m, including US$3m of Windows legal costs, US$1m of Windows investigation costs and an increased provision associated with the poor quality BCI product that was discontinued in the prior period.

As announced on 10 February 2020, the investigation into financial irregularities in the Windows business led to an adverse restatement of 1HFY19 reported EBITDA by US$7m.

Fly Ash revenue grew 5% driven by price gains of 10% and volume growth of 5% to 3.9m tons, partly offset by lower site services revenue. Earnings were lower with EBITDA margins of ~21% compared to ~22% in FY19 and ~24% in the prior corresponding period due to the completion of a higher margin site services project and higher costs.

As anticipated, revenue from fly ash site services was down, with site services representing 17% of total fly ash revenue (versus 24% in the prior period). This reflects the completion of the major Synmat construction project at the TVA Cumberland utility and at the Barry utility which contributed in 1HFY19.

We continue to make good progress on our Fly Ash strategy of growing available supply of fly ash by an annualised rate of 1.5-2.0m tons by the end of FY2021 (on FY2018 levels). See page 12 for more details.

Roofing revenue was softer while earnings were broadly steady. The result was underpinned by a lower level of re-roofing activity in Florida following completion of prior year hurricane work. Unplanned maintenance at our Lake Wales and Okeechobee plants in Florida, which had been operating at full capacity in FY19, adversely impacted the result while profitability of the Oceanside metal roofing plant in California improved.

Boral North America (continued)

Stone delivered lower revenue and lower earnings driven by a 10% decline in volume across both premium and lower tier brands. Lower demand and product intensity across the US except in the Southern States, accounted for around 7% of the volume decline. The housing slowdown in Canada accounted for a further 2% of the volume decline.

1HFY20 vs 1HFY19 variance %		
	Volume	Price[26]
Fly Ash	5	10
Roofing	steady	3
Stone	(10)	1

California accounted for a further 1% of the decline in part due to higher volumes in the prior period when a competitor's plant was shut down. While earnings benefited from price gains, lower levels of plant utilisation and higher costs resulted in softer margins. The business is focused on growing volumes and share of wall in the commercial sector and product innovation.

Light Building Products reported solid revenue and earnings growth. Versetta and Shutters & Accessories achieved good volume growth. Pricing was favorable for most products. The result was negatively impacted by a ~US$6m provision adjustment for BCI associated with a poor quality product discontinued in the prior period.

Windows reported revenue growth as sales volumes increased, reflecting improved housing activity in the Texas market relative to the weather affected prior period. Construction of the new manufacturing plant in Houston is expected to be completed in 2HFY20.

During the first half, an investigation into financial irregularities found that manipulation of accounts had occurred over approximately 20 months to October 2019. This had the financial impact of US$24.4m with historic pre-tax earnings adjusted down by US$22.6m. The balance of the impact is reflected in 1HFY20 results together with ~US$1m of investigation costs. The business is now delivering low single digit EBITDA margins but plans are underway to return the business to double digit margins in the medium term.

Meridian Brick JV delivered a post-tax equity earnings loss of US$2m, compared with profit of US$1m in the prior period.

MERIDIAN BRICK UNDERLYING RESULT

(US$m)	1HFY20	1HFY19
Revenue	198	188
EBITDA[27]	4	13

Meridian Brick generated underlying revenue of US$198m, up 6%, benefiting from the increase in US brick and resale volume. This was partly offset by a decline in Canadian brick volume due to substantially lower housing activity, with single detached housing starts and housing under construction declining by 7% and 12% respectively[28].

Underlying EBITDA of US$4m was lower, reflecting a decline in production levels to reduce inventories leading to lower fixed cost recovery.

USG Boral

50%-owned USG Boral JV in 14 countries across Australia, New Zealand, Asia and Middle East

BORAL

BORAL'S REPORTED RESULT

(A$m)	1HFY20	1HFY19	Var %
Equity income[29]	23	25	(8)

USG BORAL UNDERLYING RESULT

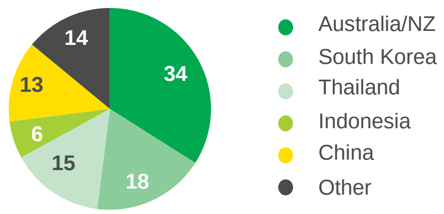
(A$m)	1HFY20	1HFY19	Var %
Revenue	812	831	▼2
EBITDA[1]	127	125	
EBITDA[1] Ex.leases	**115**	**125**	▼8
EBITDA[1] ROS *Ex. leases*	14.2%	15.1%	
EBIT[1]	75	84	
EBIT[1] Ex.leases	**75**	**84**	▼11
EBIT[1] ROS *Ex. leases*	9.2%	10.1%	
ROFE[1,3]	7.6%	8.1%	
ROFE[1,3] Ex.leases	7.6%	8.1%	

Strong earnings growth in China and higher earnings in Thailand were offset by a market driven decline in South Korea and softer earnings in Australia.

Boral's equity accounted income of $23m, down 8% on the prior year, represents Boral's 50% share of USG Boral's underlying post-tax earnings.

Revenue decreased 2% to $812m in the underlying business reflecting cyclical declines across our key markets of South Korea and Australia, largely offset by growth in other countries. Non-board revenue, which represented 40% of total revenue (includes ceiling tiles, metal stud, compounds & plasters, gypsum, and contracting), decreased 8%, primarily reflecting lower contracting in Australia and lower non-board revenue in South Korea.

1HFY20 external revenue, %



EBITDA decreased 8% to $115m. China reported strong earnings growth and Thailand earnings also grew. This was offset by a market driven decline in South Korea and softer earnings in Australia. Cost reduction initiatives including a rightsizing initiative (known as Project Horizon) were implemented in 2HFY19 and delivered cost savings of ~$9m in 1HFY20. A further $10m is expected to be delivered in 2HFY20.

Australia/NZ revenue declined 10% to $277m. Plasterboard volumes and most other manufactured product categories (such as ceiling tile and metal stud) declined due to the significant decline in housing starts. Excluding the impact of leases, earnings were slightly lower. While Australia achieved good ASP pricing outcomes, this was mostly offset by higher transport costs associated with the internal transfer of product to support volumes in Melbourne.

Asia revenue increased 2% to $536m. Strong growth in China, and growth in Thailand and India was offset by a decline in South Korea. Excluding the impact of leases, earnings were lower primarily due to lower earnings from South Korea. Cost reductions from Project Horizon and lower raw material and energy costs more than offset inflationary cost increases.

- **South Korea** reported lower revenue and earnings. While plasterboard volumes increased, non-board volumes were lower and average selling prices were significantly lower reflecting intense competition which in turn led to margin reduction. Margins are currently in line with USG Boral average margins.
- **China** revenue increased due to growth in technical board and metal stud with steady prices due to our commercial sales strategy. Earnings were higher reflecting the benefits of lower costs and improvement initiatives.
- **Thailand** revenue was modestly higher and earnings improved as market share continued to strengthen.
- **Indonesia** revenue was lower as competitive price pressures continued, driven by excess market capacity. Earnings were stable as lower raw material and energy costs helped to offset lower selling prices.
- **Vietnam** reported modest revenue and earnings growth. Expansion of the Ho Chi Minh City plant remains on track and will help ease current capacity constraints.
- **India** reported improved revenue and strong earnings growth underpinned by higher volumes. The Chennai Plant, which commenced during the half continues to ramp up and will contribute in 2H.

Strategy and priorities

Our goals are to deliver:

world class health & safety outcomes based on **Zero Harm**

returns that exceed the cost of capital through the cycle

a robust balance sheet with **investment grade credit**

Our **vision of a successful building and construction materials business** is characterised by divisions that:

- Operate in markets with positive fundamentals and growth
- Have a sustainable competitive advantage and scale within markets, including integrated positions in construction materials
- Have capital light, lower energy-intensive, higher variable cost building products operations
- Pursue effective growth strategies.

And where **Boral's global footprint** delivers benefits of:

- Diversification of earnings
- Additional growth opportunities, including through innovation
- Collaboration and operational excellence, including safety excellence.

Our **strategy is in pursuit of this vision**, and **our key objectives are to deliver**:

- **Zero Harm** safety outcomes
- **Above cost of capital returns** through the cycle
- A robust balance sheet with **investment grade credit ratings**.

Boral's safety performance strengthened in some areas with a recordable injury frequency rate **(RIFR)**[5] of 7.2 being a 4% improvement on FY19. Lost time injury frequency rate **(LTIFR)**[5] of 1.8 however, compared with 1.3 in FY19, reflecting some reversion in contractor safety performance, primarily in Boral Australia. The first half of FY2020 remained fatality free for Boral employees and contractors. Our continued focus on safety reflects a culture focused on Zero Harm Today.

Boral's three divisions each have characteristics that support the delivery of strong performance and long-term success, but we recognise that we have more work to do to execute our strategy and leverage the full potential of our businesses.

Boral's weighted average cost of capital is currently equivalent to an **EBIT return on funds employed** (**ROFE**) of ~9%. In the first half, excluding the impact of leases, Boral delivered a ROFE[1,3] of 7.3%. **Boral Australia** delivered an above cost of capital **ROFE**[1,3] of 14.5%, while USG Boral and Boral North America delivered 7.6% and 4.5%, respectively. Both USG Boral and Boral North America are positioned to deliver higher returns on a more sustainable basis over the long-term.

Given current business performance, we will continue to assess and implement strategies to improve returns and strengthen Boral's business.

Balance sheet management

While our strategy is to invest in low capital intensity, higher growth businesses to improve returns, we are focused on prudent balance sheet management to withstand any near-term cyclical downturn while maintaining operational flexibility and capacity to deliver on our strategy.

We remain well within debt gearing covenant of <60% gross debt / (gross debt + equity) and we are committed to retaining our existing BBB / Baa2 investment grade credit rating.

As previously announced, the USG Boral Knauf transaction, if approved by regulators to proceed on the basis proposed, will require US$335m of direct funding from Boral. We have a number of options available to fund the transaction with Knauf to maintain a strong balance sheet.

The dividend reinvestment plan (DRP) has been reactivated to commence with the current interim dividend, and we will underwrite the DRP in respect of the interim and final dividends for FY20.

Strategy and priorities (continued)

This will reinforce our balance sheet while we continue to pursue opportunities for further divestment of non-core assets. The announced sale of the Midland Brick business is now expected to complete in the second half of FY20 with expected net proceeds of around $82m.

During the half year, we invested $189m of capital into the business, including $75m of growth expenditure and $114m of stay-in-business capital.

BORAL AUSTRALIA

As a leading, vertically integrated construction materials player supplying residential, non-residential and infrastructure construction markets, our strategy for Boral Australia is to protect and strengthen the business.

Our key priorities are to maintain attractive, above cost of capital returns and margins; harness our leading position in Australia; leverage innovation; and profitably supply multi-year major roads & infrastructure growth.

During 1HFY20, a total of $129m of capital was invested in Boral Australia, including continuing to progress the new 1.3 million tonne **clinker and slag grinding plant** and storage facility at the Port of Geelong in Victoria, which is expected to cost up to $130m. The investment is on track and construction is expected to be completed by the end of CY2020.

We have now completed our major **quarry reinvestment** program with Ormeau Quarry (Qld) continuing to ramp up in line with expectations. We also completed the upgrade of our Bacchus Marsh sand operations at the beginning of the 2020 calendar year. In our **concrete plant network**, we are completing upgrades at Nowra and Bringelly in NSW.

We are focused on maintaining strong margins through a range of customer, commercial and operational excellence programs including structured cost reduction programs which are set to deliver savings in excess of $80m in FY2020 (see page 6 for further details).

We are also seizing opportunities to grow through materials based innovation and to improve our customer solutions. Our focus and investment in R&D has been strengthened through a new partnership with University of Technology Sydney and a recent global restructure of our innovation team. This will particularly support opportunities to grow in fly ash, not only in North America but also on a smaller scale in Australia.

We recently signed a new multi-year fly ash supply agreement in Australia, to improve our ability to supply more innovative, less carbon intensive cement and concrete product solutions. The supply agreement involves construction of a new fly ash classifier plant at the Tarong power plant in Queensland, requiring a small amount of capital from Boral, which is expected to be constructed by the end of FY21.

BORAL NORTH AMERICA

Boral North America is the largest fly ash marketer to the US construction industry and a leading supplier of products for the exterior envelope of residential and commercial buildings.

Approximately **US$40m of capital was invested into Boral North America in the half year**. This included investments in our Stone operations, the new Windows manufacturing plant in Houston, upgrades at our roofing operations and investments in fly ash to support our growth strategy and strengthen overall ROFE.

Our portfolio in North America reflects our strategy to invest in less capital intensive, more variable cost businesses that can deliver returns above the cost of capital through the cycle.

The acquisition of Headwaters in May 2017 substantially strengthened Boral's North America portfolio. We maintain the same conviction in the strategic fit of the business that we had at the time of the acquisition, but we acknowledge that execution of our overall strategy in North America has fallen short of delivering the results we had expected by FY20.

Our strategic imperatives in North America are to drive ROFE to above cost of capital; fully leverage growth from the Headwaters acquisition, including delivery of our US$115m synergy target; and deliver our fly ash and other growth opportunities.

By the end of FY19, we delivered **US$71m of Headwaters acquisition synergies**. We delivered a further ~US$7m of synergies including procurement benefits in 1HFY20, against our full year FY20 target of US$20m. This year's small shortfall against target primarily reflects lower than expected volumes in the half year – particularly in Stone. We now expect to deliver synergies of ~US$15m in FY20.

Strategy and priorities (continued)

We remain focused on attaining the full US$115m synergy target.

With a 1HFY20 ROFE of 4.5%, our North America businesses each have a clear set of priorities and improvement initiatives, and are taking actions to strengthen performance.

While we are focused on execution, we are also scrutinising our plans and strategies that are in place to make sure they remain the right things to do and can deliver the required results. Where necessary we are adapting our plans in light of any changes to market or competitive dynamics.

In our **Fly Ash** business, where we have grown 1HFY20 volumes by 5% and price by 10%, we are making **good progress to deliver on our fly ash strategy** of growing available supply of fly ash by an annualised rate of 1.5-2.0m tons by the end of FY21 (on FY18 levels).

We have made recent investments in fly ash transport and mobile storage facilities, resulting in our total storage capacity increasing to ~630k, as planned.

In December 2019, we acquired long-term, exclusive marketing rights for ~24 million tons of high quality natural pozzolan in Arizona – securing a significant source of supplementary cementitious materials for supplying Arizona, Nevada and other western markets. The natural pozzolan site, 90 miles northwest of Phoenix, was developed and permitted by Kirkland Mining Company. Extensive testing of the pozzolan confirms it can be used as a replacement of fly ash for the production of durable concrete, with no blending required. Boral will mine and process the pozzolan in a facility being constructed at the Kirkland Mine site, with production expected to ramp up to ~500k tons over a two-year period.

In FY19 and 1HFY20, we secured new domestic contracts which will contribute ~290k tons per annum from 2HFY20. In addition, we are in the process of tendering on a significant project that could increase our future fly ash volumes, and ideally contribute within the timeframe of our targeted net increase of 1.5-2 million tons per annum of available fly ash over the next two years, if not, soon after. We had signed a memorandum of understanding in relation to this opportunity, but it is now part of a tender process with an expanded scope.

Volumes from our first landfill reclaim operation at Montour in Pennsylvania, commissioned in FY19, have continued to ramp up with the operation currently reclaiming ash at a run rate of ~100k tons per annum. We have good acceptance and utilisation of Montour ash by all major customers for use in non-specification work and we expect to receive approval for specification use in the second half of the year.

We continued to supply the market with small volumes of imports from Mexico, and while imports remain a future opportunity, we are currently pursuing more profitable and potentially less capital intensive options.

Across Boral North America there are more than 50 operational improvement projects currently underway, with the majority being in **building products** where we are focused on growing our top line and strengthening operational execution.

In **Stone** we have plans to: grow volumes through product innovation including our mechanically fastened product range; increase penetration in the commercial construction sector through an expanded range; and increase our products in interior applications through targeted marketing. Structured margin and cost improvement projects are also underway across sales & marketing, procurement and manufacturing to support improved earnings.

In **Light Building Products** efforts are continuing to reduce the cost of our growing BCI / TruExterior product range including through increased use of fly ash in manufacturing and improve manufacturing efficiencies across the business to lower cost and wastage.

The **Roofing** business is also prioritising operational improvements as a key to strengthening returns. Key initiatives to improve margins and grow sales volumes include lifting our overall equipment effectiveness (OEE) across our plant network to reduce costs and debottlenecking production. The business also has initiatives in place to grow roofing system components sales, reduce raw material costs through optimisation of product weights and designs, and benefit from further procurement savings.

In **Windows**, we are implementing a margin improvement plan to drive improvements from the current low single digit margins to double digit margins in the medium term. We have reorganised the Windows business so that it is now operating within Light Building Products with stronger financial and operational oversight, to support execution of the strategy. Key initiatives include a focus on scrap reduction, increased in-house manufacturing, pricing strategies and a continuous improvement efficiency program.

Strategy and priorities (continued)

USG BORAL

The USG Boral JV is a gypsum-based, interior linings product leader in Asia and Australasia. The joint venture, which formed in March 2014, is a long-term organic growth platform for Boral.

Our key priorities for USG Boral are to create value through strategic growth, including completing the transaction with our joint venture partner Knauf, which was announced 26 August 2019. The transaction will expand the joint venture in Asia, improving asset utilisation, distribution and R&D support, and deliver around US$30m of synergies over 4 years. In Australia and NZ, Boral will return to 100% ownership of the business, with a call option granted to Knauf to buy back its 50% share, subject to regulatory approval.

The total transaction involves a direct funding requirement from Boral of US$335m. We are currently awaiting regulatory approval to complete the transaction, which we expect to occur in 2HFY20.

We are also focused on continuing to grow business through product penetration and innovation, and effectively responding to changes in cyclical demand and competition through business improvement initiatives and capacity planning.

USG Boral implemented a rightsizing initiative known as Project Horizon in response to cyclical market declines in South Korea and Australia, and will continue to implement cost excellence programs. Project Horizon delivered benefits of ~$9m of cost savings in 1HFY20, with costs savings of $10m expected to be delivered in the second half of FY20.

FY2020 Outlook

Taking into account the first half results together with lower than previously expected earnings from the Windows business, and a very challenging start to the second half in Australia including bushfire and weather related volume and cost impacts, and major project scheduling delays in the second half, Boral expects its FY2020 EBITDA to be down relative to FY2019, with lower reported EBITDA in all three divisions, including expected Property earnings of around $55–$65m in Boral Australia.

Together with higher depreciation charges, this translates to an **expected NPAT[1] range of ~$320–$340m for FY2020**, which compares with a restated **FY2019 NPAT[1] of $420m** after adjusting for Windows misreporting.

This is before the inclusion of expected additional earnings from the announced USG Boral/Knauf transaction and before the impact of accounting changes resulting from the adoption of the new leasing standard (AASB 16). Under the standard, FY2020 reported EBITDA will be ~$105m higher, EBIT will be ~$10m higher and NPAT $5m lower.

With the 10 February 2020 announcement of Mike Kane's intention to retire following delivery of the FY2020 results, the Board expects that a new CEO coming into the role will undertake a thorough review of Boral's portfolio of businesses. In anticipation, under the guidance of the Board, the executive team has commenced work in this area to analyse and review the market outlook, competitive position and earnings potential of each of Boral's businesses.

2HFY2020 trading and other FY2020 financial considerations

- Challenging start to 2H in Australia due to bushfires and extreme weather impacting on the industry; Boral's **concrete volumes in January 2020 were down ~30% on pcp**
- **Depreciation & amortisation** is expected to be in the **range of $400–$410m** in FY20 (before the impact of the new leasing standard), reflecting completion of quarry upgrades in Australia
- Boral's interest expense is currently expected to reflect a continued **cost of debt of ~4.25–4.50% pa** with net debt increasing to reflect the announced investments in USG Boral
- Boral's **effective tax rate** is currently expected to be ~**22%**
- We expect **capital expenditure** to be around $400m
- The reactivated **DRP** will be **underwritten** with respect to the interim and final dividends for FY2020
- We are closely monitoring the potential direct and indirect impacts of the **coronavirus outbreak** on our business. We have not factored in any potential impacts into our outlook guidance.

Results at a glance

(A$m unless stated)	1H FY20 Reported	1H FY20 ex.leases	1H FY19*	Var %, ex.leases
Revenue	2,989	2,989	2,990	
EBITDA[1,2]	**493**	**439**	**475**	**(8)**
EBITA[1,2]	283	277	319	(13)
EBIT[1,2]	**252**	**246**	**287**	**(14)**
Net interest[1]	(61)	(52)	(49)	(7)
Profit before tax[1]	191	193	238	(19)
Tax[1]	(34)	(35)	(46)	24
Net profit after tax[1]	**156**	**159**	**192**	**(18)**
Net significant items	(20)	(20)	36	
Statutory net profit after tax	**137**	**139**	**229**	**(39)**
Net profit after tax before acquired amortisation	179	182	216	(16)
Cash flow from operating activities	237	192	253	
Gross assets	9,766	9,365	9,466	
Funds employed	8,511	8,110	8,226	
Liabilities	3,969	3,577	3,535	
Net debt	2,714	2,322	2,295	
Stay-in-business capital expenditure	114	114	132	
Growth capital expenditure	75	75	51	
Acquisition capital expenditure	–	–	11	
Depreciation and amortisation (D&A)	241	193	188	
D&A excluding acquired amortisation	210	162	156	
Boral employees	11,621	11,621	11,810	
Total employees including in joint ventures	16,796	16,796	17,098	
Revenue per Boral employee, $ million	0.257	0.257	0.253	
Net tangible asset backing, $ per share	2.09	2.08	2.17	
EBITDA margin on revenue[1], %	16.5	14.7	15.9	
EBIT margin on revenue[1], %	8.4	8.2	9.6	
EBIT return on funds employed[1,3] %	7.0	7.3	8.0	
EBIT return on average funds employed[1,30] %	7.1	7.2	8.2	
Return on equity[1],%	6.6	6.7	7.5	
Gearing				
Net debt/equity, %	47	40	39	
Net debt/net debt + equity, %	30	29	28	
Interest cover[1], times	4.1	4.7	5.9	
Earnings per share[1], ¢	13.3	13.5	16.4	
Dividend per share, ¢	9.5	9.5	13.0	
Employee safety[31]: (per million hours worked)				
Lost time injury frequency rate	1.8	1.8	1.1	
Recordable injury frequency rate	7.2	7.2	6.7	

**1HFY19 results have been restated to reflect the correction of Windows misreporting in underlying earnings.*

Non – IFRS information

Boral Limited's statutory results are reported under International Financial Reporting Standards. A number of non-IFRS measures are reported in order to provide a greater understanding of the underlying business performance of the Group.

Significant items are detailed in Note 6 of the Half Year Financial Report and relate to amounts of income and expense that are associated with significant business restructuring, business disposals, impairment or individual transactions.

A reconciliation of these non-IFRS measures to reported statutory profit including the impact of AASB 16 is detailed below:

($m)		Earnings before significant items	Significant items	Reported Result[32]
Sales revenue		2,989.1	-	2,989.1
Profit before depreciation, amortisation, interest & income tax	**EBITDA**	493.0	(23.5)	469.5
Depreciation & amortisation, excluding amortisation of acquired intangibles		(210.3)	-	(210.3)
Profit before amortisation of acquired intangibles, interest & tax	**EBITA**	282.7	(23.5)	259.2
Amortisation of acquired intangibles		(31.0)	-	(31.0)
Profit before interest & income tax	**EBIT**	251.7	(23.5)	228.2
Interest		(61.2)	-	(61.2)
Profit before tax	**PBT**	190.5	(23.5)	167.0
Tax benefit / (expense)		(34.2)	3.7	(30.5)
Net profit after tax	**NPAT**	156.3	(19.8)	136.5
Add back: Amortisation of acquired intangibles		31.0		
Less: Tax effect of amortisation of acquired intangibles		(8.0)		
Net profit after tax & before amortisation of acquired intangibles	**NPATA**	179.3		
Basic earnings per share,¢	**EPS**[33]	13.3		11.6
Basic earnings per share before amortisation of acquired intangibles,¢	**EPSA**[33]	15.3		

The USG Boral division commentary also includes a non-IFRS measure of underlying results excluding significant items representing the six months trading results to assist users to better understand the trading results of this division.

The results announcement has not been subject to review or audit however it contains disclosures which are extracted or derived from the Half Year Financial Report for the six months ended 31 December 2019.

The Half Year Financial Report for the six months ended 31 December 2019 is prepared in accordance with the ASX listing rules and should be read in conjunction with any announcements to the market made by the Group during the year.

Non – IFRS information (continued)

Significant Items

($m) *(figures may not add due to rounding)*	1H FY2020
Headwaters integration costs	(8.2)
Cost reduction and right sizing programs	(7.2)
USG Boral legal and consulting fees (in relation to the transaction with Knauf)	(8.1)
Expense before interest and tax	(23.5)
Income tax benefit	3.7
Significant items (net)	(19.8)

A reconciliation of non-IFRS measures for continuing and discontinued operations to reported statutory profit is detailed below:

($m)		Continuing operations	Discontinued operations	Total
Sales revenue		2,960.2	28.9	2,989.1
Profit before depreciation, amortisation, interest & income tax	**EBITDA**	469.8	(0.3)	469.5
Depreciation & amortisation, excluding amortisation of acquired intangibles		(208.4)	(1.9)	(210.3)
Profit before amortisation of acquired intangibles, interest & tax	**EBITA**	261.4	(2.2)	259.2
Amortisation of acquired intangibles		(31.0)	-	(31.0)
Profit before interest & income tax	**EBIT**	230.4	(2.2)	228.2
Interest		(61.2)	-	(61.2)
Profit before tax	**PBT**	169.2	(2.2)	167.0
Tax (expense)/ benefit		(31.1)	0.6	(30.5)
Net profit after tax	**NPAT**	138.1	(1.6)	136.5

FOOTNOTES

[1] Excluding significant items

[2] See pages 14-16 for reconciliations and explanations of these items

[3] Return on funds employed (ROFE) is based on moving annual total EBIT before significant items on funds employed at period end

[4] Excludes Denver Construction Materials and US Block businesses sold on 2 July 2018 and 30 November 2018 respectively

[5] Per million hours worked

[6] Includes Boral's 50% share of underlying revenue from USG Boral and Meridian Brick joint ventures, which are not included in Group reported revenue

[7] ABS, BIS Oxford Economics and Macromonitor forecasts, constant 2016/17 dollars

[8] ABS original housing starts to September 2019. Average of Macromonitor, BIS Oxford Economics and HIA for December 2019 quarter. Six monthly data annualised

[9] Original series (constant 2016/17 prices) from ABS. Average of BIS Shrapnel and Macromonitor forecast for December 2019 quarter. Six monthly data annualised

[10] Average of HIA, BIS Oxford Economics and Macromonitor forecasts

[11] Macromonitor, Construction Materials forecast, February2020 estimates

[12] US Census seasonally adjusted annualised housing starts. Based on data through December 2019, January 2020

[13] Moody's retail sales of building products, January 2020

[14] Management estimate of square feet area utilising Dodge Data & Analytics and US Census data, December 2019

[15] Management estimate of ready mix demand utilising Dodge Data & Analytics and Portland Cement Association shipments, December 2019

[16] US Census seasonally adjusted annualised housing starts. (January, 2020 release). Based on average of analysts' forecasts (Dodge, Wells Fargo, NAR, NAHB, Fannie Mae, Freddie Mac, MBA) Various release dates between December 2019 and January 2020

[17] Based on forecasts from Moody's retail sales (January 2020)

[18] Based on Dodge Data and Analytics (Dec 2019), FMI US Construction Outlook (Q3, 2019) and PCA cement consumption outlook (Fall 2019)

[19] Based on Dodge Data and Analytics (Dec 2019) and FMI US Construction Outlook (Q3, 2019)

[20] Based on various indicators of building and construction activity

[21] Includes external and internal sales

[22] For external sales only

[23] For external and internal sales including wholesale cement but excluding Sunstate JV

[24] For external cement sales excluding wholesale cement and Sunstate JV volumes

[25] An average AUD/USD exchange rate of 0.6831 is used for 1HFY20 and 0.7213 for 1HFY19

[26] Fly Ash, Roofing and Stone price changes are based on ASP. Roofing price data is based on Concrete Tiles only

[27] Excluding significant items and impact of holding costs of closed sites

[28] Canada Mortgage and Housing Corporation, housing starts, under construction and completions, all areas, quarterly

[29] Post-tax equity income from Boral's 50% share of USG Boral JV, excluding significant items

[30] Calculated as MAT EBIT (before significant items) on the average of opening and closing funds employed for the year

[31] Includes employees and contractors in 100%-owned businesses and all joint venture operations regardless of equity interest (note that in prior periods safety data only captured 50%-owned joint ventures)

[32] Includes continuing and discontinued operations. Refer to page 16 for reconciliation between the reported result and continuing and discontinued operations

[33] Based on weighted average number of shares on issues of 1,172,331,924

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