Build something great™

Results Announcement

for the half year ended 31 December 2018

Management Discussion & Analysis

25 February 2019

1H FY2019 results summary

Excluding the impact of divestments, EBITDA broadly steady

Higher Boral North America earnings but lower earnings from Boral Australia and USG Boral

- **Reported revenue of $2,990m**, up 2%
- **EBITDA[1,2] of $485m** down 3%; **EBIT[1,2] of $297m**, down 6%
- **EBITDA[1,2] margins of 16.2%**, compared with 17.0%
- **NPATA[1,2] of $224m** down 6%; **statutory NPAT[2]** of **$237m** up 37%; and **underlying NPAT[1,2]** of $200m down 6%
- **EPSA[1,2] of 19.1 cents**, versus 20.2 cents
- **Interim dividend of 13.0 cents** per share (50% franked), up 4%
- **Operating cashflow of $253m** up 17%
- **ROFE[3] of 8.1%,** down from 8.5%

Divisional overview

- **Boral Australia –** EBITDA down 8% to $271m. Moderating residential demand and infrastructure volume lags and delays, coupled with extensive rain in NSW in October, resulted in lower concrete volumes and contributed to higher overall costs which more than offset price gains.
- **Boral North America –** EBITDA up 18% to A$196m (up 9% to US$141m) for continuing operations[4], underpinned by strong growth in Roofing earnings and Headwaters acquisition synergies. Synergies and price gains were partially offset by higher costs and the impact of above average rainfalls in key US states which slowed building products and fly ash volumes.
- **USG Boral –** Underlying EBITDA down 16% to $125m and Boral's post-tax earnings contribution of $25m, down 35%. Continued strong results from Australia, but lower results from South Korea due to a cyclical decline in volumes and increasing competition, which heavily impacted earnings. Several countries experienced input cost pressures and intensifying competition. Boral's share of NPAT from USG Boral was also impacted by a higher effective tax rate in the JV.

Strategic objectives

- **Safety –** strong improvements of recent years continued, with a recordable injury frequency rate (RIFR)[5] of 6.7, a 19% improvement on the prior corresponding period. Lost time injury frequency rate remained low at 1.1[5]. Improvements were delivered across all divisions with significant progress made in legacy Headwaters businesses in North America.
- **Solid returns on capital –** Boral delivered a return on funds employed (ROFE)[3] of 8.1%, with Boral Australia's ROFE of 15.9% being well above Boral's equivalent cost of capital ROFE of ~9.0-9.5%. USG Boral delivered a lower underlying ROFE of 8.1% due to softer earnings. Boral North America is well placed to deliver above cost of capital returns over time through the full realisation of acquisition synergies and expected growth.
- **Business transformation –** Headwaters acquisition continues to deliver good results with acquisition synergies of US$14m delivered in 1H FY2019 against a FY2019 target of US$25m. We remain on track to deliver our four-year synergy target of US$115m.

FY2019 Outlook: Expect higher full year EBITDA relative to last year for continuing operations, with a skew to the second half. The outlook includes ~15% EBITDA growth in US dollars from Boral North America, broadly steady EBITDA from Boral Australia (excluding Property earnings of $30m compared with $63m in FY2018) and slightly lower profits from USG Boral (see page 12).

Footnotes appear at end of document

Group financial overview

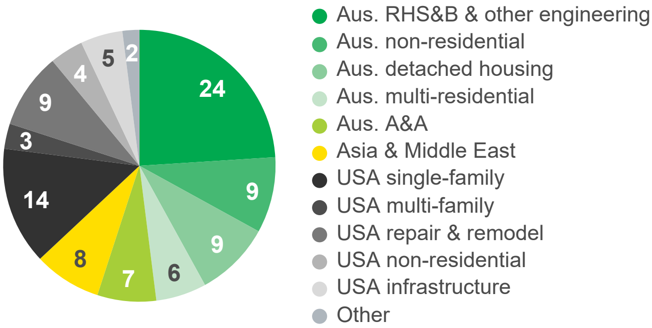
Total operations basis *(A$m)*	1H FY2019	1H FY2018	Var %
Revenue	2,990	2,937	2
EBITDA[1,2]	**485**	**500**	(3)
EBITA[1,2]	**329**	**350**	(6)
EBIT[1,2]	297	316	(6)
Net interest	(49)	(50)	
Tax[1]	(48)	(52)	
NPAT[1,2]	**200**	**214**	(6)
Significant items (gross)	53	(56)	
Tax on significant items	(16)	15	
Statutory NPAT[2]	**237**	**173**	37
NPATA[1,2]	**224**	**237**	(6)
EPSA (cents)[1, 2]	19.1	20.2	(6)
EPS (cents)[1,2]	17.1	18.2	(6)
Dividend (cents)	13.0	12.5	4

Figures may not add due to rounding.

- **Reported revenue** of $2,990m was up 2% but **EBITDA**[1,2] of $485m was down 3%. Excluding the $15m EBITDA decline due to the sale of Denver Construction Materials (on 2 July 2018) and the US Block business (on 30 November 2018), EBITDA for 1H FY2019 was broadly steady on the prior year first half. The A$31m EBITDA lift from Boral North America and lower corporate costs was offset by lower earnings from Boral Australia and USG Boral. Lower corporate costs reflect reduced head office costs and timing of costs.
- **Depreciation, amortisation and interest expense** were relatively steady.
- **Income tax expense of $48m and an effective tax rate of 19.4%** are lower than FY2019 guidance, reflecting further recognition of previously unrecognised tax losses as well as a favourable adjustment to tax provisions from a reassessment of tax exposures. Excluding these items, the underlying effective tax rate was ~22%.
- **Interim dividend of 13.0 cents** per share (50% franked), an increase of 4% over the prior period, to be paid 15 March 2019 and representing a payout ratio of 76%.
- **A net gain of $36m for significant items** reflects profits from the sale of Denver Construction Materials and US Block businesses partially offset by Headwaters integration costs.
- **Operating cash flow of $253m was up 17%**, largely reflecting lower restructuring and integration payments of $19m compared to $82m in the prior half year. Working capital increased with inventories higher as sales volumes were lower than expected and debtor days slightly higher due to a greater proportion of work coming from major projects.
- **Capital expenditure** of $183m ($132m of stay-in-business and $51m of growth expenditure) was up from $164m in the prior year first half and included investments in the new Port of Geelong clinker import terminal in Vic, quarry upgrades and investments in storage facilities and reclaim activities in US Fly Ash.
- **Net debt at 31 December 2018 was $2,295m** down from $2,453m at 30 June 2018. Proceeds received during 1H FY2019 from the sale of Denver Construction Materials and US Block were partially offset by adverse exchange rate impacts. Boral is well within its funding covenants, with Boral's principal debt gearing covenant (gross debt/ (gross debt + equity)) of 29% well within the threshold of less than 60%. Gearing (net debt/(net debt + equity)) was 28% at 31 December 2018, down from 30% at 30 June 2018.

Market conditions and external impacts

Boral 1H FY2019 external revenue[6] by market, %



Growth in Australian RHS&B infrastructure demand as residential market softens

Growth across US markets

Mixed market conditions in Asia

Weather impacted key markets

Australia

Boral Australia's largest exposure is to **roads, highways, subdivisions & bridges (RHS&B)**. Forecasts for RHS&B value of work done[7] is for the industry to grow 4% in FY2019, with 3% growth in NSW and Vic, and 8% in Qld. Other **engineering** activity[7] is forecast to decline, driven by lower mining and heavy industry activity.

Australian **housing starts**[8] moderated by 6% to an estimated 214,000 annualised starts in 1H FY2019, from 229,000 starts in 1H FY2018. **Detached housing** starts are estimated to be down 4%, with **multi-residential** starts down 10%.

In NSW, Vic, SA and WA, housing starts declined by an estimated 6%, 11%, 18% and 16% respectively. Housing starts in Qld increased by an estimated 2%, driven by multi-residential.

Market forecasters[9] expect housing starts of ~199,000 in FY2019, down 13% from FY2018, which remains 16% above the 20-year average.

Australian **alterations & additions** (A&A) activity[10] increased by an estimated 6%.

Non-residential activity[10] grew by an estimated 3% with higher demand in NSW, Vic and SA.

Rainfall in October was well above average in NSW disrupting activity and impacting volumes.

The **list of project** work in Table 1 includes some of the largest infrastructure projects Boral is currently supplying and a selection from the potential pipeline.

Table 1: Australia – Project Work

Barangaroo – Crown Casino, NSW	Est. completion 2019
Bringelly Road – Stage 1, NSW	
Forrestfield Airport Link Part 1, WA	
Geraldton Airport, WA	
Logan Motorway – Enhancement Works, Qld	
NorthConnex, NSW	
Northern Beaches Hospital, NSW	
Pacific Motorway M1 M3 Merge, Qld	
Cairns Southern Access Corridor – Stage 4	Est. completion 2020
Kingsford Smith Drive, Qld	
Northern Road Stage 2 & 3, NSW	
North-South Corridor Adelaide, SA	
Pacific Highway W2B various sections, NSW	
Pacific Motorway M2VL, Qld	
Sydney Metro (City/SW precast), NSW	
Melbourne Metro Rail Project (Precast), Vic	Est. completion 2021
West Gate Tunnel segments – Benalla, Vic	
Barangaroo – One Sydney Harbour Basement	Currently tendering
Capricorn Highway, Qld	
Cross River Rail, Qld	
Haughton River Bridge, Qld	
Inland Rail Project – Narrabri to NorthStar	
Norfolk Island Airport 2018, Qld	
Northern Road – Stages 4,5 & 6, NSW	
RAAF – East Sale, Vic	
Smithfield Transport Corridor, Qld	
Sydney Metro O/S, NSW	
Warrego Highway – Safety Upgrade, Qld	
WestConnex – Stage 3A & 3B, NSW	
West Gate Tunnel, Vic	
Western Sydney Airport, NSW	
Melbourne Airport - Third Runway, Vic	Pre-tendering
Snowy Hydro 2.0, NSW	

Market conditions and external impacts (continued)

USA

US housing starts[11] were up 2% to an estimated 1.23m starts with single-family starts down 1% and multi-family starts up 8%. On average, market forecasters[12] expect total US housing starts to grow by ~2% in FY2019 to ~1.27m starts.

Other US construction markets also strengthened in 1H FY2019. Activity in the **repair & remodel**[13] market was up an estimated 3%. **Non-residential**[14] construction market grew an estimated 5% and **US infrastructure**[15] activity, based on estimated ready mix concrete volumes, increased 4%.

Extended periods of **well above average rainfall**, in some cases at record levels, impacted the South, Midwest and Northeast during 1H FY2019. The extreme rain caused significant delays in construction activity, particularly in Texas, our key US state, with the disruption more extensive and over a wider geography than that experienced from two hurricanes in 1H FY2018.

Asia[16]

In **Korea**, residential market activity slowed significantly with the market falling from its cyclical peak. This follows the implementation of government measures to tighten mortgage lending.

In **China**, while general market growth is positive, construction has been slowing due to tighter lending policies. Environmental regulations also continue to reduce the plasterboard industry's manufacturing capacity, but not to the same extent as the prior period.

In **Indonesia**, activity remains subdued and the depreciation of the local currency against the USD resulted in higher raw material and transport costs.

In **Thailand**, construction market activity remained subdued, while emerging markets of **India** and **Vietnam** continue to grow.

Divisional reviews

(A$m)	Sales revenue		EBITDA[1]		EBIT[1]	
	1H FY2019	1H FY2018	1H FY2019	1H FY2018	1H FY2019	1H FY2018
Boral Australia	**1,825**	1,804	**271**	294	**168**	194
Boral North America (continuing operations)	1,104	994	196	165	115	90
USG Boral (Boral's 50% post-tax earnings)	**-**	-	**25**	38	**25**	38
Discontinued (US Block and Denver CM)	62	138	4	19	**-**	11
Corporate	**-**	-	**(10)**	(17)	**(10)**	(17)
TOTAL reported (total operations basis)	**2,990**	2,937	**485**	500	**297**	316

Figures may not add due to rounding.

The following pages provide a review of Boral's three divisions.

Boral Australia

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

(A$m)	1H FY2019	1H FY2018	Var%
Revenue	1,825	1,804	▲1
EBITDA[1]	271	294	▼8
EBITDA[1] ROS	*14.8%*	*16.3%*	
EBIT[1]	168	194	▼14
EBIT[1] ROS	*9.2%*	*10.8%*	
ROFE[1,3]	*15.9%*	*15.4%*	
Property	*(3)*	*0*	▼
EBITDA[1] excluding Property	*274*	*294*	▼7
EBITDA[1] ROS excl. Property	*15.0%*	*16.3%*	

Figures may not add due to rounding

1H FY2019	External revenue		EBITDA
Concrete & Placing	862	▼1%	▼
Asphalt	376	▲1%	▼
Quarries	223	▲9%	▼
Cement	164	▲ 4%	▼
Building Products	172	Steady	▼

Revenue up 1% but EBITDA down 8% due to lower concrete volumes, inefficiencies from project delays and rain impacts and less favourable product and geographic mix

Revenue increased by 1% to $1,825m with higher contributions from Quarries, Cement and Asphalt but lower revenue from Concrete & Placing.

Increasing infrastructure activity substantially offset overall moderating residential demand as well as softer non-residential activity in Qld. However, delays in several major projects combined with a heavily rain-impacted October in NSW slowed revenue growth and impacted margins.

Overall, like-for-like (LFL) prices were higher across Quarries, Cement and Concrete.

EBITDA decreased 8% to $271m with earnings lower across Boral Australia businesses. **EBITDA margins** of 14.8% compare with 16.3% in the prior year first half. Excluding Property, EBITDA was down 7%.

Lower earnings and margins reflect softer concrete volumes, a less favourable product and geographic mix and operational inefficiencies from project delays and weather impacts as well as a ~$10m increase in energy and fuel costs, largely due to higher diesel fuel costs.

ROFE[1,3] increased to 15.9% from 15.4% in the prior year first half. This reflects the higher 2H FY2018 EBIT compared to the prior corresponding period, as ROFE is calculated on a moving annual basis.

Concrete & Placing earnings (EBITDA) declined with revenue down 1%. Earnings were adversely impacted by lower concrete volumes, a higher proportion of revenue from the lower margin Concrete Placing business which reported strong growth, and extensive rain in NSW in October.

While demand from infrastructure continued to grow, concrete volumes declined 8% driven by: moderating residential demand across all regions, particularly in the multi-residential sector in NSW; a decline in commercial activity in WA; a marked decline in non-residential construction in Qld, partly reflecting prior period accelerated volumes due to the Commonwealth Games; and weather related delays. Volumes to major projects were higher year on year but below our expectation as some projects experienced disruptions and delays, impacting productivity and costs. Major infrastructure projects contributing to revenue during the period included North Connex and Pacific Highway in NSW and Forrestfield Airport link in WA.

Concrete LFL prices were up 3% with solid gains across most regions, including NSW, Qld and Vic.

Boral Australia (continued)

1H FY2019 vs 1H FY2018	Variance %		
	Volume[17]	Price (ASP)[18]	Price (LFL)[18]
Concrete	(8)	4	3
Quarries	5	(3)	1[19]
Aggregates	(1)	1	1
Cement	(1)[20]	2[21]	2[21]

Quarries reported lower earnings on external revenue growth of 9%, reflecting strong growth in lower value products in South East Queensland (SEQ) and NSW and higher production costs, particularly in Vic where the existing and new plant are operating at Deer Park to supply demand.

Quarry volumes (internal and external) increased 5% with significant growth in Vic and SEQ, partially offset by a marked decline in WA.

Nationally, average selling price (ASP) for Quarries declined by 3% reflecting an adverse mix shift as well as price pressures from a continued abundance of tunneling spoils and recycled materials in NSW and low value fill in SEQ. Excluding low value products, ASP was up 1%. On a LFL basis, quarry prices were also up an average of 1% nationally, with price growth in Vic and Qld.

Asphalt earnings declined on a revenue increase of 1%, as strong growth in infrastructure activity was tempered by several major project delays and phasing impacts in Qld and NSW, rain impacts in NSW in October as well as some project delays in Victoria. Earnings were adversely impacted by higher costs and lower productivity on some major projects. Major projects contributing to revenue in the half year included: Gateway Upgrade North, Logan Enhancement and Dalby East West in Qld and Northern Road and Pacific Highway in NSW.

Cement revenue was up 4% reflecting price gains and higher external cement volumes, although total cement volumes (external and internal) were down 1%, and down 3% including the Sunstate JV. Earnings were modestly lower, impacted by lost production days at our Berrima kiln, as well as higher fuel and clinker costs.

Property reported an EBITDA loss of $3m, compared to a breakeven result in 1H FY2018, with earnings expected to flow through in 2H FY2019.

Building Products (Timber, Roofing and Bricks WA) reported steady revenue with weaker earnings, as inflationary cost pressures, particularly in Timber and Roofing, more than offset the benefit of higher ASP and cost reduction initiatives in these businesses. Bricks WA will benefit from restructuring initiatives undertaken in 1H FY2019.

Excellence programs

We are seeing benefits from our **commercial excellence** program, which has now been rolled out across most businesses, as well as our **customer experience** program initiated in FY2018 that is focused on transforming the Boral customer experience and improving profitability.

Our multi-year **supply chain** project is part of our Operational Excellence program and is delivering cost savings in 1H FY2019 in line with expectations. Over the next three years, we are aiming to reduce supply chain costs, which total ~$650m, by 5% to 10%, and provide better service to our customers.

Additional cost reduction initiatives that have been identified and implemented include the consolidation of our Roofing and Timber businesses into an east coast building products business to reduce overhead costs, as well as a restructuring of Construction Materials and Midland Brick in WA into a single WA management team.

Boral North America

Fly Ash, Roofing, Stone, Light Building Products (LBP), Windows & Meridian Brick JV
(Note: Denver Construction Materials divested 1 Jul-18, US Block divested 30 Nov-18)

CONTINUING OPERATIONS

(A$m)[22]	1H FY2019	1H FY2018	Var %
Revenue	1,104	994	▲11
EBITDA[1]	196	165	▲18
EBIT[1]	115	90	▲28
(US$m)			
Revenue	796	776	▲3
EBITDA[1]	141	129	▲9
EBITDA[1] ROS	*17.7%*	*16.6%*	
EBIT[1]	83	70	▲18
ROFE[1,3]	*4.6%*	*4.4%*	

Figures may not add due to rounding

1H FY2019 (US$m)	External revenue		EBITDA
Fly Ash	277	▼1%	Steady
Roofing	179	▲16%	▲
Stone	135	▲ 1%	▲
Light Building Products	133	▲ 2%	▼
Windows	72	▼ 3%	▲

The commentary relates to results for continuing operations.

Revenue up 3% driven by strong lift in Roofing with above average rainfall impacting volumes, particularly Fly Ash and Windows

EBITDA up 9% benefiting from synergies

Revenue was up 3% to US$796m largely driven by significant growth in Roofing. Extensive rainfalls in the South, Midwest and Northeast delayed construction activity with the impact exceeding that experienced from two hurricanes in 1H FY2018. Record rainfall was experienced in many areas, including Texas and the Northeast, which particularly impacted Windows and Fly Ash.

EBITDA increased 9% to US$141m with benefits from a further US$14m in synergies. Solid overall price gains across all businesses and operational improvements substantially offset cost pressures. Higher earnings contributions from Roofing, Stone, Windows and Meridian Brick JV were partially offset by weaker earnings from Light Building Products.

Fly Ash revenue declined 1% reflecting completion of two major one-off site services construction projects and lower fly ash volumes which were substantially offset by an overall LFL price increase of 13%. Site services represented 24% of Fly Ash revenue, down from 27% in the prior half year.

Fly Ash earnings were broadly steady, with the benefit of price growth and synergies of US$3m offset by a decline in volumes and higher costs. EBITDA margins of ~24% were broadly steady.

Fly ash volumes declined 6% to 3.7 million tons due to the anticipated impact of prior period Texas utility closures, which totalled ~400k tons, as well as intermittent unplanned power plant outages and extreme wet weather conditions substantially slowing activity. Supply constraints were mitigated by optimising our network, including through additional storage capacity and increasing available ash through beneficiation, imports, new contracts and landfill reclamation.

An additional ~20k tons in floating storage capacity through our mobile rail car fleet was added during 1H FY2019. A further 50k-55k tons in fixed and floating storage capacity is currently underway and expected to be completed by the end of CY2019, increasing our storage capacity to over 600k tons.

In October 2018, Boral acquired the marketing rights for fly ash produced at two large utilities in Mexico. While initial volumes are small, these are expected to ramp up following logistical infrastructure upgrades.

Fly ash sales from our landfill reclaim operation at Montour, Pennsylvania which was commissioned in the half year, are expected to ramp up through 2H FY2019, and should contribute around 40k-50k tons in FY2019.

Boral North America (continued)

Roofing delivered strong earnings growth driven by a 16% increase in revenue. Overall sales volumes were up 16% with significant growth in Concrete Tile products underpinned by strength in the Florida market, where demand growth exceeded housing starts[23]. Volume growth was tempered by production constraints at the Oceanside metal roofing plant (CA). A 5% increase in Concrete Roofing ASP more than offset inflationary and demand driven cost pressures.

1H FY2019 vs 1H FY2018 variance %		
	Volume	Price[24]
Fly Ash	(6)	13
Roofing	16	5
Stone	(1)	3
Windows	(4)	3

Earnings benefited from improved manufacturing performance at the Okeechobee plant (FL) and the prior period Lake Wales plant (FL) upgrade. Production optimisation initiatives at the Oceanside plant have progressively improved manufacturing capacity, with increased volumes and lower manufacturing costs expected in 2H FY2019. Additional Roofing synergies of US$4.5m were in line with our expectations.

Stone earnings were modestly higher on revenue growth of 1%. Earnings benefited from solid price gains, synergies of US$2m and completion of commissioning of the upgrade at the Greencastle Eldorado Stone plant. This was partly offset by costs pressures, particularly from raw materials and labour, and a modest decline in volumes reflecting softer demand in US Central, Northeast and Southern regions.

Light Building Products reported a revenue increase of 2% and softer earnings. Revenue growth benefited from significant volume gains in Versetta and TruExterior® Siding and Trim which offset softer volumes across most other product categories. Shutters, Accessories and Siding were impacted by weaker market demand in Northeast and Midwest markets which were weather affected.

Earnings were adversely impacted by higher raw material and labour costs and continued higher production costs in the TruExterior® Siding and Trim business which more than offset synergies of US$2m. Profitability is expected to improve in 2H FY2019 as manufacturing efficiency in the TruExterior® business increases.

Windows reported stronger earnings despite a decline in revenue. Volumes were down due to record rain in Texas with customers reporting continued strong underlying demand.

Earnings benefited from price gains, lower glass costs and improved manufacturing performance at the Magnolia plant.

Meridian Brick JV delivered post-tax equity earnings of US$1m, up from a loss of US$2m in the prior period. The underlying Meridian Brick JV generated US$188m of revenue and US$13m of EBITDA. Compared to the prior period, revenue declined 7% while earnings increased 24%, benefiting from prior year asset rationalisation and cost reductions.

MERIDIAN BRICK UNDERLYING RESULT

(US$m)	1H FY2019	1H FY2018
Revenue	188	202
EBITDA[25]	13	11

Brick volumes were lower, reflecting a smaller distribution network following prior period manufacturing and distribution asset closures, softer market demand in Canada, weather impacts as well as a continued decline in brick intensity. Revenue benefited from solid price gains and a modest increase in resale revenue.

USG Boral

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

Underlying revenue grew 2% but EBITDA down 16% largely reflecting a slowdown in South Korea which performed very strongly in prior corresponding half year

BORAL'S REPORTED RESULT

(A$m)	1H FY2019	1H FY2018	Var %
Equity income[26]	25	38	(35)

USG BORAL UNDERLYING BUSINESS RESULT

(A$m)	1H FY2019	1H FY2018	Var %
Revenue	831	815	2
EBITDA[1]	125	149	(16)
EBITDA[1] ROS	*15.1%*	*18.3%*	
EBIT[1]	84	113	(26)
EBIT[1] ROS	*10.1%*	*13.9%*	
ROFE[1,3]	*8.1%*	*11.1%*	

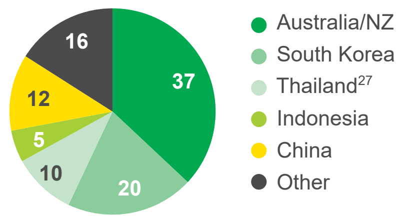
Boral's **equity accounted income of $25m, down 35%** on the prior half year, represents Boral's 50% share of USG Boral's post-tax earnings. Boral's share of NPAT from the JV was also impacted by a higher effective tax rate in the JV mainly due to higher Australian earnings and higher withholding tax.

Revenue increased 2% to $831m in the underlying business. Volume growth in Australia, Indonesia, Vietnam and India, higher overall non-board revenue and a favourable currency translation in Thailand largely offset the market-driven decline in revenue from South Korea. Price outcomes were mixed.

Non-board revenue, which represented 42% of total revenue and includes ceiling tiles, metal stud, compounds and plasters, gypsum, and contracting, increased 8% mainly due to higher gypsum and metal stud sales and contracting in Australia.

Underlying EBITDA declined by 16% to $125m, primarily reflecting lower earnings from South Korea and overall cost increases including raw materials, labour and energy. Excluding South Korea, earnings were marginally lower as increased contributions from Australia, Vietnam and India were offset by lower earnings from Indonesia, China and the Philippines.

1H FY2019 revenue, %



Australia/NZ revenue increased 3% to $307m driven by higher board volumes and growth in non-board revenue, most notably contracting services. Board prices were broadly steady.

Earnings in Australia increased reflecting continued strength in residential and commercial construction demand as well as lower costs compared with the prior half year which was impacted by one-off costs associated with gypsum supply issues through GRA.

Asia revenue increased by 1% to $524m with growth across most countries offset by a marked decline in South Korea. Earnings were significantly impacted by lower volumes in South Korea as well as higher costs more broadly.

- **South Korea** volumes were down around 15-20% and prices were also lower, reflecting declining market demand and intensifying competition as the housing market came off its cyclical peak. Volumes and margins were also impacted by Typhoon Soulik and associated rain in the September quarter. While margins were down year on year, the business is sustaining its market share with margins continuing to be well above USG Boral's average margins.
- **China** revenue increased due to growth in non-board products and a favourable currency translation. Earnings were softer with price gains offset by lower plasterboard volumes and cost increases. Flooding at our Chongqing plant in July and August resulted in five days of lost production.
- **Thailand** earnings were broadly steady with margins remaining strong. Domestic and export volumes were lower with competitive pressures ongoing.
- **Indonesia** revenue was steady with volumes higher as demand slowly strengthened although competitive pricing pressures continued. Earnings declined reflecting price weakness and higher raw material and transportation costs.
- **India and Vietnam** both reported revenue growth and improved earnings with strong volume gains in India and Vietnam and price improvement in Vietnam.

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

more **sustainable growth**, including through innovation.

Boral's safety performance noticeably improved in the first half of FY2019, with combined employee and contractor recordable injury frequency rate (**RIFR**)[5] of 6.7 compared with 8.3 in 1H FY2018 and 8.7 in FY2018. Lost time injury frequency rate (**LTIFR**)[5] of 1.1 compared with 1.6 for FY2018 and 1.1 in the same period last year. All divisions reported improvements in RIFR for the half year relative to FY2018.

The legacy Headwaters businesses delivered a significant turnaround in performance, and Meridian Brick operations also improved.

Our strategy continues to **focus on delivering above cost of capital returns** through the cycle and more sustainable growth, by:

- consistently **applying best practice** (including operational and commercial excellence)
- drawing on Boral's **strength of geographic diversification,** building a portfolio of businesses with a **balance of traditional and innovative products, growing through innovation** and, **where it makes sense, through M&A** opportunities.

Boral's weighted average cost of capital is currently equivalent to an EBIT return on funds employed (**ROFE**) of ~9.0-9.5%. In 1H FY2019, we delivered a ROFE[3] of 8.1%. **Boral Australia** continued to deliver above cost of capital **ROFE**[3] returns of 15.9%, while USG Boral and Boral North America delivered 8.1% and 4.6%, respectively.

In line with our acquisition expectations, **Boral North America** is on track to deliver above cost of capital returns in coming years as earnings continue to grow and as full synergies from the **Headwaters acquisition** are delivered in year four. The Headwaters acquisition strengthens Boral's ability to deliver strong earnings through the cycle, with a less cyclical, more stable ROFE from more diverse US market exposures and less exposure to high fixed cost businesses.

USG Boral delivered above cost of capital returns in FY2018 but first half returns dipped below the cost of capital.

BORAL AUSTRALIA

Boral Australia remains strong and the business is performing well. Our strategy is to protect and strengthen our leading, integrated construction materials position, which continues to benefit from the multi-year pipeline of major roads and infrastructure work.

During 1H FY2019, a total of $108m of capital was invested in Boral Australia including progressing the new 1.3 million tonne **clinker and slag grinding plant** and cementitious storage facility at the Port of Geelong in Victoria, expected to cost up to $130m. The investment will improve delivered cement costs by eliminating road transport of imported clinker and reducing handling and grinding costs. The increased capacity will meet future demand growth and expand Boral's cement product offering, and is expected to be completed in 2020.

Further progress was made at our **quarry reinvestments** with the Orange Grove Quarry (WA) plant upgrade completed in 1H FY2019 and Ormeau Quarry (Qld) capacity expansion expected to be completed in 2H FY2019.

We also continued to make modest investments in Boral's **concrete and asphalt plant network**, with a new higher capacity concrete batch plant at West Melbourne (Vic) being commissioned to replace our closed North Melbourne plant. In Asphalt, we are currently commissioning a new plant at Toowoomba (Qld).

Strategy and priorities (continued)

BORAL NORTH AMERICA

In October 2018, we announced the divestment of our US Block business for US$156m, in line with our strategy to focus on building products and fly ash in the Boral North America business. The transaction settled on 30 November 2018.

We continue to make good progress integrating the **Headwaters acquisition**. In Stone, we are undertaking plant network optimisation initiatives, while in Roofing, we are optimising our branding and channel to market strategies. Consolidation of back office, finance and IT systems also continues in line with our expectations.

We continue to deliver improvements in plant operational issues in Roofing, Stone and Windows that impacted in FY2018 and expect to deliver further earnings benefits from operational improvements in 2H FY2019.

Additional cost and revenue synergies achieved in 1H FY2019 of US$14m are in line with our year two target of an additional US$25m pa in FY2019, with the benefit of prior period headcount reductions skewed to the 1H. We continue to expect year four synergies of US$115m pa with synergies expected to total US$64m by end of FY2019.

In the **Fly Ash business**, we are making good progress to meet our target of increasing annual supply of available fly ash to the market by 1.5–2.0 million tons over the next three years. We have started selling fly ash from our landfill reclaim operation at Montour, Pennsylvania and recently acquired the marketing rights for fly ash produced at two large utilities in Mexico which will support our fly ash import volumes.

During 1H FY2019, we invested US$52m of capital into Boral North America, including US$15m in additional fly ash storage and completing our Montour fly ash reclamation facility, in addition to upgrading our Stonecraft manufactured stone plant in Ohio.

USG BORAL

The USG Boral JV in Australia, Asia and the Middle East, formed in March 2014, is a long-term organic growth platform for Boral. The business is positioned to deliver strong growth through innovation, economic growth in Asia and as product penetration accelerates for gypsum-based linings and ancillary products.

As previously advised, the entry into a merger agreement between USG Corporation and Knauf constitutes a default under the USG Boral shareholders' agreement that we have with USG, which triggers the right for Boral to acquire USG's interest in the **USG Boral JV**. As such, we have been in discussions with industry players, including Knauf, to assess a broad range of alternatives relating to the USG Boral JV including a return to 100% Boral ownership or the formation of an expanded joint venture.

Today we announced that we have executed non-binding term sheets with Knauf, subject to valuations, negotiations and execution of definitive documents, and completion of the USG Knauf Merger Agreement, which could see Boral and Knauf form a new joint venture (JV) for its Asian plasterboard businesses. We are also working with Knauf to consider the opportunity for Boral to acquire USG Boral's Australasian[28] plasterboard business returning Boral to 100% ownership in that region, subject to valuations and negotiation of definitive documents.

We also have contractual arrangements with Knauf to preserve our right, but not an obligation, to call the remaining 50% of the existing USG Boral JV in the event that a transaction is not agreed to with Knauf. As such, the current valuation process underway with USG for the USG Boral business is continuing.

We have also entered into contractual arrangements with Knauf that provide a standstill, while negotiations are continuing, on any potential litigation by Boral against Knauf in relation to breach of the existing Shareholders Agreement should Knauf complete its merger with USG before reaching a definitive deal with Boral.

Importantly though, in the absence of an acceptable agreement, Boral is under no compulsion to make further investment or complete a transaction. In this event we would remain a 50% owner of USG Boral. We will only invest in the business if it is value creating for Boral's shareholders.

In the event an investment is to be made by Boral, our strong preference is to use debt and proceeds from asset sales. A committed acquisition facility is in place.

FY2019 Outlook

Boral's FY2019 EBITDA is expected to be higher than FY2018 for continuing operations with a skew to 2H FY2019.

On a divisional basis we expect the following:

Boral Australia to deliver broadly similar EBITDA in FY2019 excluding Property in both years.

FY2019 Property earnings are expected to be around $30m compared with $63m in FY2018, and are anticipated to come through in the second half of the year.

Our earnings expectation is underpinned by forecast industry growth in RHS&B (up 4%)[7] and non-residential demand (up around 7%)[7] offsetting the impacts of a softening housing construction market.

Detached housing starts are forecast to be down 7% and multi-residential starts down 20%[9].

Higher volumes, together with business improvement initiatives will contribute to the 2H skew. The volume outlook is based on current known schedules for existing and new major projects.

Boral North America to deliver EBITDA growth of approximately 15% in USD in FY2019 for continuing operations, reflecting volume growth, further synergy delivery and operational improvements.

Boral North America's outlook includes expected Headwaters acquisition synergies of ~US$25m in FY2019.

After the US winter, we expect construction to recover from early March in line with a typical US Spring recovery. We also expect a modest level of continued growth in underlying market demand across our end-markets.

Fly ash volumes in 2H are expected to increase compared to the prior corresponding period, reflecting efforts to increase available supply.

Price growth for most products is anticipated with margins improving or at least holding.

USG Boral to deliver slightly lower profits in FY2019 compared with FY2018.

The revised FY2019 outlook for USG Boral reflects a decline in residential construction activity in South Korea and demand in the Australian business holding up.

Year-on-year improvement in 2H earnings is expected including growth in Australia, Indonesia, Thailand and Vietnam.

Boral is progressing strategic opportunities for the USG Boral plasterboard business, as announced today, but we have assumed there will be no impact in FY2019.

FY2019 financial considerations

- With the full benefit from the reduction in the US corporate tax rate, Boral's **effective tax rate is expected to be in the range of 21–22%**.
- Boral's **interest expense** is expected to reflect a continued **cost of debt of ~4.25–4.50% pa** on a broadly steady net debt position and based on current market forecasts for government cash rates.
- Boral's **corporate costs** are expected to be broadly in line with FY2018.
- **Franking** rates for dividends are expected to be partially franked at or around 50% in line with the relative earnings from Australia in the total portfolio.
- Overall, we expect depreciation and amortisation to be in the range of **$380–$390m** in FY2019. Our expectation for **capital expenditure** for FY2019 is in the range of **$425–450m**.

(A$m unless stated)	1H FY2019	1H FY2018	Change %
Revenue	2,990	2,937	2
EBITDA[1,2]	485	500	(3)
EBITA[1,2]	329	350	(6)
EBIT[1,2]	297	316	(6)
Net interest[1]	(49)	(50)	
Profit before tax[1]	248	266	(7)
Tax[1]	(48)	(52)	
Net profit after tax[1]	200	214	(6)
Net significant items	36	(41)	
Statutory net profit after tax	237	173	37
Net profit after tax and before amortisation[1]	224	237	(6)
Cash flow from operating activities	253	216	
Gross assets	9,480	9,061	
Funds employed	8,238	7,804	
Liabilities	3,537	3,623	
Net debt	2,295	2,366	
Stay-in-business capital expenditure	132	149	
Growth capital expenditure	51	15	
Acquisition capital expenditure	11	-	
Depreciation and amortisation	188	184	
Boral employees	11,810	11,655	
Total employees including in joint ventures	17,098	16,621	
Revenue per Boral employee, $ million	0.253	0.252	
Net tangible asset backing, $ per share	2.18	1.96	
EBITDA margin on revenue[1], %	16.2	17.0	
EBIT margin on revenue[1], %	9.9	10.8	
EBIT return on funds employed[1,3] %	8.1	8.5	
EBIT return on average funds employed[1,29] %	8.3	9.2	
Return on equity[1],%	7.7	7.5	
Gearing			
Net debt/equity, %	39	43	
Net debt/net debt + equity, %	28	30	
Interest cover[1], times	6.1	6.3	
Earnings per share[1], ¢	17.1	18.2	
Dividend per share, ¢	13.0	12.5	
Employee safety[30]: (per million hours worked)			
Lost time injury frequency rate	1.1	1.1	
Recordable injury frequency rate	6.7	8.3	

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 is detailed below:

(A$m)		Earnings before significant items	Significant items	Reported Result[31]
Sales revenue		2,990.3	-	2,990.3
Profit before depreciation, amortisation, interest & income tax	**EBITDA**	**485.1**	**52.7**	537.8
Depreciation & amortisation, excluding amortisation of acquired intangibles		(156.4)	-	(156.4)
Profit before amortisation of acquired intangibles, interest & tax	**EBITA**	**328.7**	**52.7**	**381.4**
Amortisation of acquired intangibles		(31.6)	-	(31.6)
Profit before interest & income tax	**EBIT**	**297.1**	**52.7**	**349.8**
Interest		(48.8)	-	(48.8)
Profit before tax	**PBT**	**248.3**	**52.7**	**301.0**
Tax benefit / (expense)		(48.1)	(16.4)	(64.5)
Net profit after tax	**NPAT**	**200.2**	**36.3**	**236.5**
Add back: Amortisation of acquired intangibles		**31.6**		
Less: Tax effect of amortisation of acquired intangibles		(8.1)		
Net profit after tax & before amortisation of acquired intangibles	**NPATA**	**223.7**		
Basic earnings per share	**EPS[32]**	**17.1**		**20.2**
Basic earnings per share before amortisation of acquired intangibles	**EPSA[32]**	**19.1**		

The USG Boral division commentary also includes a non-IFRS measure of underlying results excluding significant items representing the 6 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 6 months ended 31 December 2018.

The Half Year Financial Report for the 6 months ended 31 December 2018 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)

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

(A$m)		Continuing operations	Discontinued operations	Total
Sales revenue		2,928.8	61.5	2,990.3
Profit before depreciation, amortisation, interest & income tax	**EBITDA**	**468.4**	**69.4**	**537.8**
Depreciation & amortisation, excluding amortisation of acquired intangibles		(154.5)	(1.9)	(156.4)
Profit before amortisation of acquired intangibles, interest & tax	**EBITA**	**313.9**	**67.5**	**381.4**
Amortisation of acquired intangibles		(29.3)	(2.3)	(31.6)
Profit before interest & income tax	**EBIT**	**284.6**	**65.2**	**349.8**
Interest		(48.8)	-	(48.8)
Profit before tax	**PBT**	**235.8**	**65.2**	**301.0**
Tax expense		(45.4)	(19.1)	(64.5)
Net profit after tax	**NPAT**	**190.4**	**46.1**	**236.5**

FOOTNOTES

[1] Excluding significant items

[2] See page 14 for a reconciliation and explanation 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, except for 1H FY2018 ROFE for Boral North America and Group which is based on monthly average funds employed

[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] Average of Macromonitor and BIS Oxford Economics value of work done forecasts (constant 2016/17 prices)

[8] ABS original housing starts; average of Macromonitor, BIS Oxford Economics and HIA for December 2018 quarter

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

[10] Original series (constant 2016/17 prices) from ABS for September 2018 quarter; average of Macromonitor and BIS Oxford Economics forecasts for December 2018 quarter

[11] US Census seasonally adjusted annualised housing starts. Based on data up to November 2018

[12] Based on average of analysts' forecasts (Dodge, Wells Fargo, NAR, NAHB, Fannie Mae, Freddie Mac, MBA), July - December 2018

[13] Moody's retail sales of building products, January 2019

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

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

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

[17] Includes external and internal sales

[18] For external sales only

[19] Excluding low value fill

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

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

[22] An average AUD/USD exchange rate of 0.721 is used for 1H FY2019 and 0.7803 for 1H FY2018

[23] Dodge Data & Analytics housing starts

[24] Fly Ash price change based on LFL. Roofing, Stone and Windows price changes are based on ASP. Roofing price increased based on Concrete Tiles only

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

[26] Post-tax equity income from Boral's 50% share of USG Boral JV

[27] Excludes inter-company sales

[28] Includes Australia, New Zealand, Papua New Guinea and islands in the South West Pacific

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

[30] 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)

[31] Includes continuing and discontinued operations. Refer page 15 for reconciliation between the reported result and continuing and discontinued operations

[32] Based on weighted average number of shares on issue of 1,172,331,924

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