Boral Group: snapshot

An Australian based, ASX listed international building & construction materials group

A$5.6b Revenue (proforma)²
A$965m EBITDA²,³ (proforma)
17 countries
~700 operating sites
~16,475 employees⁴
A$8.8b (US$6.8b)⁵ market capitalisation

### Boral Australia

**A$3.3b revenue**
- Leading, integrated construction materials position
- Diversified end market exposure
- Benefiting from multi-year infrastructure growth

### Boral North America

**A$2.3b (US$1.7b) proforma revenue²**
- Leading US market positions with diversified end markets
- Growth platforms in building products & fly ash
- Strong innovation pipeline

### USG Boral JV – 50%

**A$1.5b revenue (100% of JV)⁶**
- Leading plasterboard manufacturing and distribution footprint in Asia and Australia with world-leading technologies
- Strong growth: economic, product penetration & innovation

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1. For the financial year ended 30 June 2017
2. Includes full year proforma revenue contribution for Headwaters
3. Excluding significant items
4. Full-time equivalent employees, including employees in joint ventures, as at 30 June 2017
5. As at 9 November 2017
6. Includes full year pro forma revenue contribution for Headwaters and 50% JV revenue from Meridian JV
7. LBP: Light Building Products - includes siding, trim and panelised stone
8. USG Boral revenue is shown on 100% basis. These results are not reported in Boral’s income statement as this 50% investment is equity accounted
Leading construction materials footprint

Diversified geographic and end-market exposure

Geographic\(^1\), %

- NSW / ACT: 45%
- VIC / TAS / SA: 43%
- QLD: 24%
- WA: 24%

End-market\(^1\), %

- RHS&B\(^2\) and other engineering: 9%
- Non-residential: 16%
- Single residential: 13%
- Multi residential: 9%
- Alterations & additions: 11%
- Other: 11%

OPERATING FOOTPRINT
(total number of operating sites\(^3\))

- Quarries: 78
- Concrete: 225
- Asphalt: 41
- Cement\(^4\): 6
- Roof tiles: 4
- Timber\(^5\): 9
- Bricks WA: 1
- Masonry: 3
- Other: 1

1. Based on FY2017 split of Boral Australia external revenue
2. Roads, Highways, Subdivisions and Bridges
3. As at 30 June 2017
4. Includes cement manufacturing plant, bagging plant and lime plant in NSW, a clinker grinding plant in Victoria and a clinker grinding JV in Queensland
5. Includes 8 Boral Hardwood mills and one JV Softwood operation
Vertically integrated positions in key markets, especially on East Coast

**Cement**
- ~70% manufactured clinker, ~30% imported
- 1.5m tonne p.a. clinker kiln capacity
- 3m tonne p.a. cement grinding capacity¹
- 6 operating sites

**Quarries**
- Aggregates & sand
- ~25-35% Quarry volumes sold internally to Concrete²
- ~5-15% Quarry volumes sold internally to Asphalt

**Concrete**
- ~50-60% Cement volumes sold internally to Concrete
- 225 concrete plants
- Plus a fleet of mobile plants supplying major projects
- ~7m m³ p.a.

**Asphalt**
- ~50% of bitumen supplied by JV plants²
- 41 operating sites
- >2m tonnes of asphalt p.a.

**Bitumen**
- BIA JV
- ~50% of bitumen supplied by JV plants²

**End Customer**
- ~5-15% Quarry volumes sold externally²
- ~50% of bitumen supplied by JV plants²

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¹ Includes Boral’s share of 1.5m tonnes of grinding capacity in 50% owned Sunstate JV

² Based on FY2017 data. Long term historic averages differ as follows: ~40-50% Quarry volumes sold internally to Concrete; ~35-55% Quarry volumes sold externally & ~35% of bitumen supplied by JV plants
Boral Australia: major project and infrastructure
Well positioned to benefit from pipeline of project activity in RHS&B¹ & non-residential segments

Australian major road & building construction projects³,⁴
Value of work done (A$b)

RHS&B² and other engineering
Non-residential
Single residential
Multi residential
Alterations & additions
Other

1. Roads, Highways, Subdivisions & Bridges
2. Based on FY2017 split of Boral Australia external revenue
3. Chart prepared exclusively by Macromonitor based on publicly available data. Boral has not independently verified either the historical data or forecasts. Chart shows financial years and projects with total value >A$500m only
4. Forecast spending represents Macromonitor’s indicative estimation of likely spending based on currently available information. There can be no assurance that actual results will be as forecasted and such differences can be material.

Forecast spending represents Macromonitor’s indicative estimation of likely spending based on currently available information. There can be no assurance that actual results will be as forecasted and such differences can be material.
Headwaters acquisition expanded Boral’s footprint & diversified our exposures

1. Includes Boral’s 50% share of JV Revenue from the Meridian Bricks Joint Venture for 12 months ended 30 June 2017 and proforma revenue for Headwaters from 1 July 2016 to 30 June 2017

2. Revenue split is based on a combination of FY17 external revenues for legacy Boral (50% of Meridian JV) and the regional level percent split for Oct ‘15 – Sep ‘16 applied to FY2017 proforma revenue for legacy Headwaters

3. As at 30 June 2017
Headwaters complements our product portfolio

Product maturity lifecycle of Boral North America's portfolio

- **Introduction**
  - Headwaters Products
  - Legacy Boral Products

- **Growth**
  - Headwaters Products
  - Legacy Boral Products

- **Maturity**
  - Headwaters Products
  - Legacy Boral Products

- **Decline**
  - Headwaters Products
  - Legacy Boral Products

- **Early / Development Phase**
  - Innovation
    - Factory
  - Composite Siding
  - Panelized Stone
  - Composite Roofing

- **Adoption Phase**
  - PVC Trim
  - Stone Coated Metal Roofing
  - Specialty Vinyl Siding
  - Composite Trim

- **Mature Phase**
  - PVC Shutters
  - Stone
  - Clay & Concrete Roof Tile
  - Brick & Block

- **Cash Generation**
Leading national Fly Ash business
Providing demand and supply growth opportunities

**DEMAND:** outlook strong
- Potential to expand substitution rates in concrete, currently ~16% (~50% in European markets\(^1\))
- Cement growth forecast\(^2\) at ~5% CAGR FY2017 – 21
- Exposure to increasing US infrastructure spend
  - Estimated infrastructure investment needed by 2025 is US$4.6 trillion\(^3\)

**SUPPLY:** attractive growth opportunities
- Fly ash supply dependent on coal-sourced electricity generation; coal expected to remain ~30% of energy mix in USA\(^4\)
- Currently ~45% of fly ash produced is land-filled
- Initiatives underway to increase sources of supply over medium to long-term including increased storage capacity and reclamation of landfilled fly ash\(^5\)

**PRICING:** gap to cement represents opportunity
- Ready mix producers motivated to increase fly ash as generally less expensive than Portland cement
- Fly ash increasingly being specified – performance and sustainability features
- Primary fly ash pricing (~$25 - $75/ton)\(^6\) tends to follow cement pricing (~$90 - $150/ton) for the Ready Mix market

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1. Management estimates
3. 2017 American Society of Civil Engineers, Infrastructure Report Card
4. US Energy Information Administration (EIA)
5. Other fly ash source of supply includes ~1 billion tons currently landfilled (source: American Coal Ash Association)
6. Approximate range represents cement replacement quality fly ash
50%-owned joint venture with leading market shares in high growth countries

USG Boral’s plasterboard market share¹, %

Operating Footprint²
- **18** Plasterboard plants
- **3** Gypsum mines
- **31** Other plants³

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1. Based on management estimates of plasterboard sales volume, excluding ceiling tiles, as at 30 June 2017
2. As at 30 June 2017. Certain manufacturing facilities and gypsum mines held in JV with third parties
3. Includes Oman, the United Arab Emirates and Saudi Arabia
Growth underpinned by product penetration opportunities

Early Stage
- GDP: ~3,000 US$/capita
- PB¹ consumption: ~0.5m²/capita
- 15~25% strong growth, but fluctuating: Philippines, India, Laos, Cambodia, China local cities

Growth
- Market growth led by residential ceiling and commercial projects
  - GDP: ~10,000 US$/capita
  - PB¹ consumption: ~3.0m²/capita
  - 10~15% strong and steady growth: China metro cities and most of metro cities in South East Asia region

Developed
- Market led by wall penetration
  - GDP: ~30,000 US$/capita
  - PB¹ consumption: ~5.0m²/capita
  - 3~5% low market growth: Korea and Shanghai

Matured
- No market growth: Japan

Traditional housing
- Traditional building materials
- No ceiling required

Budget housing
- Concrete and bricks
- Concealed ceiling required

Modern and high-end housing
- Concrete and bricks
- Concealed ceiling required
- Fire and acoustic partitions

Sustainable construction
- High-rise buildings
- Light weight systems
- Drywall required

1. Plasterboard
EBITDA growth achieved across each division

### EBITDA & EBITDA margin

**Boral Group**

<table>
<thead>
<tr>
<th>A$m</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY17PF</th>
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</thead>
<tbody>
<tr>
<td>473</td>
<td>9.4</td>
<td>9.8</td>
<td>10.7</td>
<td>13.7</td>
<td>15.0</td>
<td>16.4</td>
<td>17.2</td>
</tr>
</tbody>
</table>

- **ROFE**

- **FY17 returns exceeding cost of capital (COC)**

1. Excluding significant items.
2. For continuing operations in each financial year.
3. USG Boral results are shown on 100% basis. These results are not reported in Boral’s income statement as this 50% investment is equity accounted.

### Boral Australia

<table>
<thead>
<tr>
<th>A$m</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td>448</td>
<td>12.0</td>
<td>12.6</td>
<td>15.0</td>
<td>15.9</td>
<td>16.7</td>
</tr>
</tbody>
</table>

### USG Boral

<table>
<thead>
<tr>
<th>US$m</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.6</td>
<td>13.6</td>
<td>15.9</td>
<td>18.0</td>
<td>19.2</td>
<td>284</td>
</tr>
</tbody>
</table>

### Boral North America

<table>
<thead>
<tr>
<th>US$m</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>9.1</td>
<td>11.3</td>
<td>15.9</td>
<td>278</td>
<td></td>
</tr>
</tbody>
</table>

- **Positioned to exceed COC**

4. Includes full year pro forma contribution for Headwaters.
5. EBIT (excluding significant items) return on funds employed (divisional funds employed is segment assets less segment liabilities). ROFE is calculated based on funds employed as at 30 June, except in FY2017 for Group and Boral North America ROFE, which are based on average monthly funds employed due to the impact of Headwaters only contributing 8 weeks of EBIT in FY2017 but funds employed increasing fully at 30 June 2017.

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FY17PF: Fiscal Year 2017 Pro Forma
1. **Maintaining and strengthening our leading position in Australia**
   - Well positioned on the east coast where conditions are strong
   - Quarry reinvestment leverages our integrated position and ability to deliver major projects
   - Operational and commercial excellence delivering productivity and margin expansion

2. **Growing organically and through innovation in USG Boral**
   - Growing in plasterboard markets in Asia, Australia and the Middle East, including Sheetrock® technologies
   - Next generation sheetrock® technology highly attractive in high energy cost, scarce water, high humidity markets

3. **Transformational growth in the USA**
   - Headwaters acquisition delivers transformational growth, including substantial synergies
   - Meridian Brick JV delivers portfolio and performance improvements, including strong synergies
   - More balanced portfolio, broader exposure to large-scale markets and ability to grow through innovation

4. **Leveraging growth in key markets and across all geographies**
   - **Australia**: multi-year growth trajectory for major roads and infrastructure
   - **Asia**: leveraged to economies with long-term growth prospects and increasing product penetration
   - **USA**: ongoing market recovery and new market opportunities and scale through Headwaters acquisition

5. **Strong cash flows and solid balance sheet**
Supplementary slides
Boral North America: A US$1.9b\(^1\) revenue business

Strong strategic fit between Headwaters and Boral’s existing US businesses

**FY2017 external revenue**

*Proforma (US$m)\(^1\)*

<table>
<thead>
<tr>
<th></th>
<th>Legacy Boral USA</th>
<th>Legacy Headwaters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fly Ash</td>
<td>~$490m</td>
<td></td>
</tr>
<tr>
<td>Stone</td>
<td>~$250m</td>
<td></td>
</tr>
<tr>
<td>Roofing</td>
<td>~$300m</td>
<td></td>
</tr>
<tr>
<td>Light Building Products(^2)</td>
<td>~$260m</td>
<td></td>
</tr>
<tr>
<td>Windows &amp; Block</td>
<td>~$250m Energy Technologies</td>
<td></td>
</tr>
<tr>
<td>Bricks &amp; Denver CM</td>
<td>~$310m Denver Construction Materials</td>
<td>Bricks(^3) (now in Meridian Brick JV)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Leading geographic coverage across the USA</th>
<th>Leading sales, marketing and product offering across North America</th>
<th>Sales in 43 states with Concrete, Clay, Stone Coated Metal and Composite offering</th>
<th>12 product categories with sales across the USA</th>
<th>Focused primarily in Southeast and Southwest regional businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fly Ash</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stone</td>
<td></td>
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</tr>
<tr>
<td>Bricks &amp; Denver CM</td>
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</table>

1. Proforma based on 12 months ended 30 June 2017 including Headwaters and Meridian JV, except for Windows which is based on revenue post-acquisition from August 2016
2. Light Building Products includes siding, trim and panelised stone
3. Represents Boral's 50% share of revenue from the Meridian Bricks JV for 12 months ended 30 June 2017
On track to deliver substantial synergies
From complementary businesses and SG&A overhead savings

Targeted synergies

~US$100m per annum within four years

- Light Building Products
- Roofing
- Stone
- Fly Ash
- Corporate

~US$50-55m

~US$30-35m

Year 1 deliverable
End year 1 run rate

Year 4

Synergy sources and implementation costs

- **Cross-Selling & Distribution**
  - Leverage existing relationships across sales channels for greater cross-selling opportunities

- **Procurement**
  - Utilise scale and best practices from each business across procurement functions over time

- **Operations**
  - Utilise scale, optimise logistics and supply chain over time; network optimisation and production efficiency

- **SG&A**
  - Support function efficiencies and share capabilities over time, public company cost savings

- **Implementation costs**
  - Primarily incurred within the first 24 months post transaction completion

1. Synergies include cost synergies and estimated cross-selling and distribution revenue synergies, and exclude one-off implementation costs estimated at approximately US$100 million.
Safety performance

Company-wide commitment to Zero Harm Today

Employee and Contractor RIFR¹
(per million hours worked)

- Continuing to reduce injuries in FY2017 with 8% improvement in RIFR¹ down to 8.1 from 8.8
  - LTIFR increased slightly to 1.5 from 1.3
  - MTIFR reduced to 6.6 from 7.5
- Continued engagement throughout Boral around our global safety goal including in Meridian Brick & Headwaters businesses

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¹. Recordable Injury Frequency Rate (RIFR) per million hours worked is made up of Lost Time Injury Frequency Rate (LTIFR) and Medical Treatment Injury Rate (MTIFR). Does not include Headwaters
GHG emissions totalled 2.5m tonnes in FY17
Boral's emissions and emissions intensity have reduced by ~30% since FY12

GHG emissions from operations\(^1\) and emissions intensity per A$\text{m} of revenue\(^2\)
(million tonnes of CO\(_2\)-e)

1. Data provided for FY2017 GHG emissions is for Boral's 100% owned operations and Boral's share of emissions from 50%-owned joint venture operations. Does not include Headwaters for FY2017.
2. Revenue has been adjusted to include 50% share of underlying revenues from USG Boral and Meridian Brick joint ventures, which are not reported in Group revenues.
Balance sheet
Maintaining a robust financial position

Gearing (net debt / net debt + equity), %

<table>
<thead>
<tr>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>30</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>30</td>
</tr>
</tbody>
</table>

- **Net debt of $2,333m** at 30 June 2017 from net debt of $893m at 30 June 2016 due to Headwaters acquisition
- Weighted average debt facility maturity of ~5.5 years\(^1\)

Debt maturity profile (proforma)\(^1\)

<table>
<thead>
<tr>
<th>A$m</th>
<th>Drawn debt(^2)</th>
<th>Undrawn syndicated facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY12</td>
<td>1,518</td>
<td>1,518</td>
</tr>
<tr>
<td>FY13</td>
<td>1,446</td>
<td>1,446</td>
</tr>
<tr>
<td>FY14</td>
<td>718</td>
<td>718</td>
</tr>
<tr>
<td>FY15</td>
<td>817</td>
<td>817</td>
</tr>
<tr>
<td>FY16</td>
<td>893</td>
<td>893</td>
</tr>
<tr>
<td>FY17</td>
<td>2,333</td>
<td>2,333</td>
</tr>
</tbody>
</table>

1. Gross debt as at 30 June 2017 adjusted for 25 October 2017 bond issue
2. US Private Placement notes, Swiss franc notes issued under EMTN program and Bank syndicated loans
## Outlook summary for FY2018
(as presented at Boral’s AGM, 2 Nov-17)

### Earnings growth across all divisions, with significant lift in Boral North America as we deliver on Headwaters acquisition objectives

<table>
<thead>
<tr>
<th>Division</th>
<th>Highlights</th>
</tr>
</thead>
</table>
| **Boral Australia** | • Growth in infrastructure and pricing outcomes on East Coast to more than offset pressures in WA, general softening in housing and higher energy costs  
• Expect an increase in energy costs at the upper end of $15-$20 million estimated range  
• Property earnings in FY2018 currently expected at lower end of historical range ($8m–$46m), skewed to 2H  
• Expect higher EBIT in FY2018 compared with FY2017 including property in both years, and excluding Property in both years, expect high single-digit EBIT growth in FY2018, assuming a return to average weather conditions |
| **USG Boral** | • Profit expected to grow at a high single-digit growth rate in FY2018  
• Sheetrock® to deliver price, volume and cost benefits across all markets  
• 2H improvements expected from Indonesia and Thailand businesses, while softer activity is forecast in Australian and Korean residential construction markets |
| **Boral North America** | • Expect significant growth in EBIT in FY2018 from the full year contribution of Headwaters coupled with US$30–35m of year 1 synergies  
• Expect Meridian Brick JV to contribute an earnings uplift from market growth and synergies  
• Assuming delivery of market growth forecasts\(^1\) of ~8% in housing starts (to ~1.29 million), ~5% increase in US infrastructure activity, ~12% growth in Non-residential and ~6% growth in Repair & Remodel |

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1. Housing starts based on average of analysts’ forecasts (Dodge, Wells Fargo, NAR, NAHB, Fannie Mae, Freddie Mac, MBA) from July/August 2017 forecast; Non-residential from Dodge Data & Analytics, Non-Residential Value of Work; Repair & Remodel from Moody’s Retail Sales of Building Products; and Infrastructure Ready Mix Demand from McGraw Hill Dodge.