

Bowen Coking Coal Ltd (BCB)

Rating: Buy | Risk: High | Price Target: \$0.24

20 May 2024

Coking coal strength driven by strong Indian demand

Key Information

| | |
|-------------------------|-------------|
| Current Price (\$ps) | 0.07 |
| 12m Target Price (\$ps) | 0.24 |
| 52 Week Range (\$ps) | 0.05 - 0.22 |
| Target Price Upside (%) | 255.5% |
| TSR (%) | 255.5% |
| Reporting Currency | AUD |
| Market Cap (\$m) | 191 |
| Sector | Materials |
| Avg Daily Volume (m) | 3.9 |
| ASX 200 Weight (%) | 0% |

Fundamentals

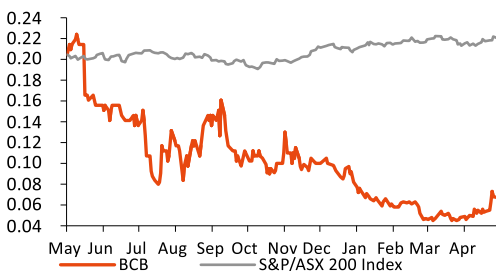
| YE 20 Jun (AUD) | FY23A | FY24E | FY25E | FY26E |
|-----------------|-------|-------|--------|-------|
| Sales (\$m) | 204 | 458 | 423 | 621 |
| NPAT (\$m) | (163) | (34) | 82 | 101 |
| EPS (cps) | (8.9) | (1.4) | 3.0 | 3.6 |
| EPS Growth (%) | nm | 84.2% | 313.9% | 19.8% |
| DPS (cps) (AUD) | 0.0 | 0.0 | 0.0 | 1.0 |
| Franking (%) | 0% | 0% | 0% | 0% |

Ratios

| YE 20 Jun | FY23A | FY24E | FY25E | FY26E |
|------------------|-------|-------|-------|-------|
| P/E (x) | (1.7) | (4.7) | 2.2 | 1.9 |
| EV/EBITDA (x) | (1.1) | 21.6 | 1.3 | 1.1 |
| Div Yield (%) | 0.0% | 0.0% | 0.0% | 14.9% |
| Payout Ratio (%) | 0.0% | 0.0% | 0.0% | 27.6% |

Price Performance

| YE 20 Jun | 1 Mth | 2 Mth | 3 Mth | 1 Yr |
|---------------|-------|-------|-------|---------|
| Relative (%) | 39.3% | 41.1% | 7.8% | (74.5%) |
| Absolute (%) | 42.6% | 42.6% | 9.8% | (67.2%) |
| Benchmark (%) | 3.3% | 1.5% | 2.0% | 7.3% |



Price performance indexed to 100

Source: FactSet

Major Shareholders

| | |
|---------------------------------|-------|
| Regal Funds Management Pty Ltd. | 12.2% |
| Crocodile Capital Partners GmbH | 9.7% |
| Kirmar GmbH | 6.3% |
| LATIMORE MATTHEW | 5.3% |
| Ilwella Pty Ltd. | 4.8% |

Andrew Hines | Head of Research

+61 3 9268 1178

andrew.hines@shawandpartners.com.au

Peter Kormendy | Senior Research Analyst

+61 3 9268 1099

Peter.Kormendy@shawandpartners.com.au

Dorab Postmaster | Analyst

+61 8 9263 5211

Dorab.Postmaster@shawandpartners.com.au

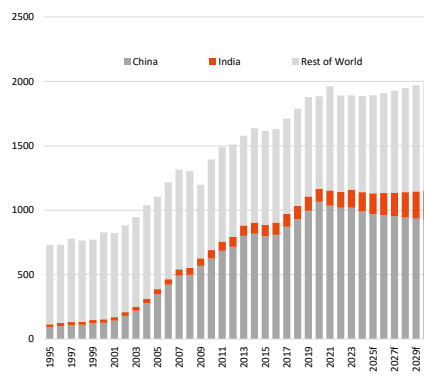
Event

As the sun sets on a period of extraordinary growth in Chinese steel production, it is just dawning over India. A big difference between the two countries is that whereas China was short of iron ore, India is short of coking coal. Iron ore supply struggled to keep up with Chinese demand resulting in a period of highly elevated prices. Supply constraints may be even worse for coking coal, and it is now likely that we are in a period of elevated coking coal prices. Bowen Coking Coal is a leveraged way to play this thematic, and after a difficult two years, 2024 should be the year when the company finds its operational footing.

Highlights

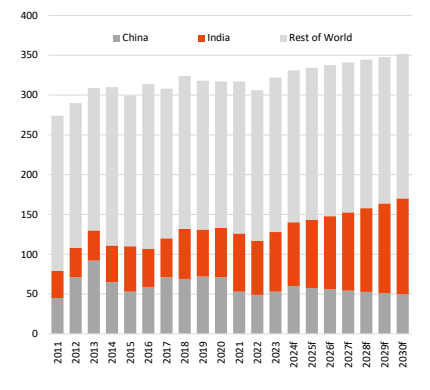
- Coking coal is used in the steel-making process in blast furnaces and has very different demand dynamics to thermal coal which is used to generate electricity in coal-fired power stations. Global steel production is continuing to grow in-line with global GDP and is particularly fast growing in the developing world (e.g. India). We forecast global coking coal seaborne trade to grow from 322Mt in 2023 to 351Mt in 2030.
- Chinese steel production peaked in 2020 and is now expected to steadily decline in the same way that it has done for most mature economies. India, on the other hand, is now starting to rapidly expand and we expect steel production to grow from 140Mt in 2023 to ~226Mt in 2030. This will require an additional 60Mt of coking coal. Despite its smaller steel industry, India has already overtaken China as the largest importer of coking coal. Additional demand from India is likely to see coking coal markets remain supply constrained with prices elevated. We forecast ~US\$260/t in 2025 and then modest declines to our long-term sustainable price of US\$220/t by 2028.

Figure 1: Global steel production (Mt)



Source: WSA, Shaw and Partners

Figure 2: Coking coal imports (Mt)



Source: McCloskey, Shaw and Partners.

- Bowen Coking Coal has had a difficult past two years due to poor performance of the Bluff mine, adverse weather, and a period of weaker coal prices in early 2023. Operating performance has been poor, but the outlook looks considerably more positive. Bowen is focussing its operation on the Ellensfield South mine for the next two years. This mine produces a high-quality coking coal and is expected to operate at a low strip ratio of 5x. The mine is expected to operate with strong positive operating cash flow.
- Bowen is expected to be self-sustaining from here, with operating cash flow sufficient to fund debt repayment, capex and royalty payments. We have revised our forecasts with EBITDA down 84% in FY24 on higher costs, down 41% in FY25 on lower volumes, but up 34%/37% in FY26/27 on higher coal price assumptions.

Recommendation

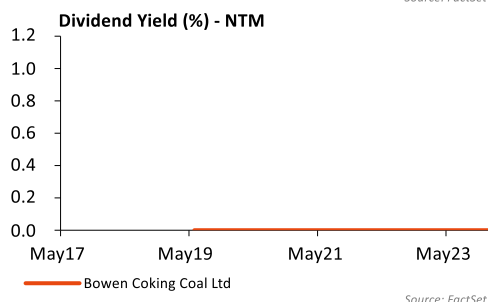
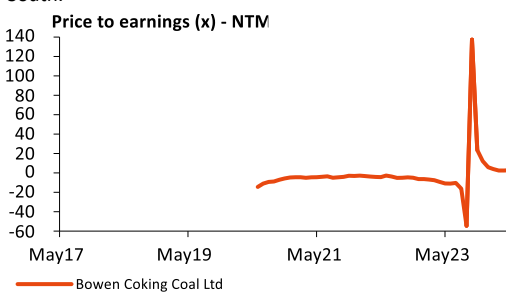
We retain our BUY recommendation and slightly increase our price target from A\$0.23ps to A\$0.24ps with the coal price upgrades offsetting the near-term higher costs.

Bowen Coking Coal Ltd
Materials
Materials
FactSet: BCB-AU / Bloomberg: BCB AU

| Key Items | Data |
|------------------------|-------------|
| Recommendation | BUY |
| Risk | HIGH |
| Price (\$ps) | 0.07 |
| Target Price (\$ps) | 0.24 |
| 52 Week Range (\$ps) | 0.05 - 0.22 |
| Shares on Issue (m) | 2,848 |
| Market Cap (\$m) | 191 |
| Enterprise Value (\$m) | 160 |
| TSR (%) | 255.5% |

Company Description

Bowen Coking Coal Ltd is a coking coal producer based in the Bowen Basin in Queensland. Bowen has refurbished the first module of the 5.5mtpa Burton coal wash plant and is washing coal from Broadmeadow East and Ellensfield South.



Financial Year End: 20 June

| Investment Summary (AUD) | FY22A | FY23A | FY24E | FY25E | FY26E |
|--------------------------------------|---------|----------|---------|--------|-------|
| EPS (Reported) (cps) | (1.5) | (8.9) | (1.4) | 3.0 | 3.6 |
| EPS (Underlying) (cps) | (1.5) | (8.9) | (1.4) | 3.0 | 3.6 |
| EPS (Underlying) Growth (%) | nm | nm | 84.2% | 313.9% | 19.8% |
| PE (Underlying) (x) | (23.1) | (1.7) | (4.7) | 2.2 | 1.9 |
| EV / EBIT (x) | (9.1) | (1.1) | (20.4) | 1.6 | 1.4 |
| EV / EBITDA (x) | (9.4) | (1.1) | 21.6 | 1.3 | 1.1 |
| DPS (cps) (AUD) | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| Dividend Yield (%) | 0.0% | 0.0% | 0.0% | 0.0% | 14.9% |
| Franking (%) | 0% | 0% | 0% | 0% | 0% |
| Payout Ratio (%) | 0.0% | 0.0% | 0.0% | 0.0% | 27.6% |
| Profit and Loss (AUD) (m) | FY22A | FY23A | FY24E | FY25E | FY26E |
| Sales | 12 | 204 | 458 | 423 | 621 |
| Sales Growth (%) | n/a | 1,623.8% | 123.9% | (7.6%) | 46.9% |
| Other Operating Income | 0 | 6 | 7 | 6 | 9 |
| EBITDA | (17) | (139) | 7 | 121 | 142 |
| EBITDA Margin (%) | nm | (67.9%) | 1.6% | 28.5% | 22.9% |
| Depreciation & Amortisation | (1) | (13) | (15) | (20) | (27) |
| EBIT | (17.6) | (151.8) | (7.8) | 100.6 | 115.4 |
| EBIT Margin (%) | nm | (74.2%) | (1.7%) | 23.8% | 18.6% |
| Net Interest | (1) | (11) | (24) | (11) | (6) |
| Pretax Profit | (18) | (163) | (32) | 90 | 110 |
| Tax | 0 | 0 | 0 | 0 | 0 |
| Tax Rate (%) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| NPAT Underlying | (18) | (163) | (34) | 82 | 101 |
| Significant Items | 0 | 0 | 0 | 0 | 0 |
| NPAT Reported | (18) | (163) | (34) | 82 | 101 |
| Cashflow (AUD) (m) | FY22A | FY23A | FY24E | FY25E | FY26E |
| EBIT | (18) | (152) | (8) | 101 | 115 |
| Payments to Suppliers | (19) | (287) | (450) | (302) | (478) |
| Receipts from Customers | 0 | 185 | 458 | 423 | 621 |
| Tax Paid | 0 | 0 | 0 | 0 | 0 |
| Change in Working Capital | 0 | 0 | (14) | (20) | 4 |
| Depreciation & Amortisation | 1 | 13 | 15 | 20 | 27 |
| Other | (1) | (16) | (40) | (31) | (33) |
| Operating Cashflow | (19) | (105) | (30) | 91 | 141 |
| Capex | (0) | (67) | (97) | (52) | (2) |
| Acquisitions and Investments | (3) | (1) | (1) | (1) | (1) |
| Disposal of Fixed Assets/Investments | 0 | 0 | 0 | 0 | 0 |
| Other | (29) | (33) | (20) | 0 | 0 |
| Investing Cashflow | (33) | (100) | (118) | (53) | (3) |
| Equity Raised / Bought Back | 67 | 126 | 48 | 0 | 0 |
| Dividends Paid | 0 | 0 | 0 | 0 | 0 |
| Change in Debt | 20 | 56 | 0 | (47) | (74) |
| Other | 34 | (0) | 0 | 0 | 0 |
| Financing Cashflow | 121 | 182 | 48 | (47) | (74) |
| Exchange Rate Effect | 0 | 0 | 0 | 0 | 0 |
| Net Change in Cash | 70 | (24) | (100) | (9) | 64 |
| Balance Sheet (AUD) (m) | FY22A | FY23A | FY24E | FY25E | FY26E |
| Cash | 73 | 49 | (51) | (60) | 5 |
| Accounts Receivable | 15 | 37 | 44 | 41 | 60 |
| Inventory | 6 | 60 | 38 | 35 | 51 |
| Other Current Assets | 3 | 4 | 4 | 4 | 4 |
| PPE | 11 | 171 | 253 | 285 | 260 |
| Total Assets | 107 | 321 | 288 | 305 | 380 |
| Accounts Payable | 32 | 121 | 91 | 66 | 105 |
| Short Term Debt | 9 | 131 | 47 | 0 | 0 |
| Long Term Debt | 33 | 28 | 102 | 102 | 28 |
| Total Liabilities | 89 | 373 | 334 | 261 | 226 |
| Ratios | FY22A | FY23A | FY24E | FY25E | FY26E |
| ROE (%) | (37.2%) | (275.0%) | (71.9%) | 82.4% | 52.7% |
| Gearing (%) | (59.7%) | 75.8% | 77.3% | 53.3% | 8.8% |
| Net Debt / EBITDA (x) | 1.8 | (0.8) | 27.0 | 1.3 | 0.2 |

March quarter performance and earnings revisions

March quarter ROM production of 615kt was down on the 785kt mined in December post the closure of the Bluff mine. Pleasingly, and despite the weather disruptions, March quarter ROM production at the Burton complex was up 4% and the month of March has set a new production record of 259kt mined.

Burton all-in costs (including royalties) of A\$242/t were down from A\$254/t in the December quarter thanks to a lower strip ratio at Broadmeadow East to 7.1:1 (from 12.4:1). Costs are expected to decline further in the next two quarters as mining at Broadmeadow East pauses and the focus shifts entirely to Ellensfield South where the strip ratio for the remaining life-of-mine is only 5:1.

Operations were impacted by the heavy rain from tropical cyclone Kirrily which caused mining, rail and port disruptions. Coal sales totalled 457t, down from 505kt in the December quarter. The split of coal sales was 102kt of PCI coal (the last of the Bluff sales), 153kt of thermal coal and 202kt of coking coal. Coking coal was 44% of total sales, and this is expected to lift above 50% with the shift to Ellensfield South.

The 457kt of coal sales generated revenue of \$118.5m, of which \$28m was received from customers post the end of the quarter. Bowen's average achieved coal price increased 11% in the quarter to US\$176/t due to a higher proportion of coking coal sales. Thermal coal remained flat at US\$97/t (from US\$100/t) and coking coal was also relatively flat at US\$246/t (from US\$255/t).

The cash balance of A\$39m at 31-March is in-line with expectations post the payment of A\$19m in state royalties. Bowen has negotiated a deferral of QLD state royalty payments. In the September 2023 quarter Bowen deferred \$23m of which \$3.8m was paid in the December quarter and \$19.2m in the March quarter. At 31-March the balance of outstanding royalty payments was \$18.3m, of which \$4.8m was paid in April with the balance to be paid in equal instalments through to October 2024.

Bowen has previously announced that it will be divesting a 10% stake in the Broadmeadow East mine for A\$13m to its JV partner which is expected to complete before the end of the 2024 financial year.

Despite the tough operating conditions and with Ellensfield South not yet at full rates, the Burton Complex generated positive operating cashflow of A\$3.9m post a A\$10m state royalty payment. Bowen is expected to be cash flow positive from here on.

Bowen remains on track to meet its FY24 guidance for the Burton Complex with ROM production of 2.3-2.6Mt (1.7Mt ytd), coal sales of 1.5-1.8Mt (1.1Mt ytd) and cash costs excluding royalties of A\$175-195/t (A\$174/t ytd).

The main adjustments to our forecasts include:

1. Upgraded our coking coal price assumption from 2025 onwards by ~US\$30/t
2. Significantly increased costs in FY24 due to the disruptions from cyclones Jasper and Kirrily.
3. Lower production forecast in 2025 due to a deferral of the second stage of the Burton wash plant upgrade to FY26.

Figure 3: Earnings Revisions

| Revisions | 2024f | | | 2025f | | | 2026f | | | 2027f | | |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | New | Old | Chg % | New | Old | Chg % | New | Old | Chg % | New | Old | Chg % |
| Shipments (kt) | 1,971 | 1,601 | 23% | 1,815 | 2,800 | -35% | 2,795 | 2,800 | 0% | 2,795 | 2,800 | 0% |
| Revenue (A\$m) | 458 | 436 | 5% | 423 | 617 | -31% | 621 | 490 | 27% | 600 | 456 | 32% |
| EBITDA (A\$m) | 7 | 45 | -84% | 121 | 203 | -41% | 142 | 106 | 34% | 113 | 82 | 37% |
| NPAT (A\$m) | -34 | 23 | n/a | 82 | 110 | -25% | 101 | 53 | 91% | 52 | 39 | 31% |

Source: Shaw and Partners analysis

Figure 4: Bowen quarterly production and cash flow – fiscal year quarters

| Bowen quarterly financials | 1Q24 | 2Q24 | 3Q24 | 4Q24f | 1Q25f | 2Q25f | 3Q25f | 4Q25f |
|--|------------|------------|------------|------------|------------|------------|------------|------------|
| ROM production (kt) | | | | | | | | |
| Bluff | 153 | 193 | 0 | 0 | 0 | 0 | 0 | 0 |
| Burton Complex | 488 | 592 | 617 | 688 | 688 | 688 | 688 | 688 |
| Total | 640 | 785 | 617 | 688 | 688 | 688 | 688 | 688 |
| Saleable coal Production (kt) | | | | | | | | |
| Bluff | 125 | 114 | 85 | 0 | 0 | 0 | 0 | 0 |
| Burton Complex | 420 | 365 | 378 | 454 | 454 | 454 | 454 | 454 |
| Total | 545 | 505 | 457 | 454 | 454 | 454 | 454 | 454 |
| Shipments (kt) | | | | | | | | |
| Coking Coal (kt) | 0 | 99 | 202 | 259 | 259 | 259 | 259 | 259 |
| PCI Coal (kt) | 301 | 168 | 102 | 0 | 0 | 0 | 0 | 0 |
| Thermal Coal (kt) | 254 | 238 | 153 | 194 | 194 | 194 | 194 | 194 |
| Total | 555 | 505 | 457 | 454 | 454 | 454 | 454 | 454 |
| Coal price (US\$/t) | | | | | | | | |
| Benchmark HCC (US\$/t) | 260 | 335 | 312 | 245 | 260 | 260 | 260 | 260 |
| Benchmark 6,000 Newc (US\$/t) | 147 | 136 | 127 | 130 | 150 | 180 | 160 | 130 |
| AUD/USD | 0.65 | 0.68 | 0.66 | 0.66 | 0.68 | 0.70 | 0.72 | 0.72 |
| Bowen Achieved Sales Price (US\$/t) | | | | | | | | |
| Bluff | 173 | 184 | | | | | | |
| Burton Complex | 121 | 146 | 182 | 150 | 163 | 172 | 166 | 156 |
| Average (US\$/t) | 132 | 158 | 176 | 150 | 163 | 172 | 166 | 156 |
| Average (A\$/t) | 202 | 234 | 268 | 227 | 239 | 246 | 230 | 217 |
| Operating Costs (A\$/t of sales) | | | | | | | | |
| Bluff | 372 | 288 | 0 | 0 | 0 | 0 | 0 | 0 |
| Burton Complex | 152 | 254 | 242 | 187 | 176 | 176 | 154 | 154 |
| Average (A\$/t) | 199 | 265 | 189 | 187 | 176 | 176 | 154 | 154 |
| P&L (A\$m) | | | | | | | | |
| Revenue | 112 | 118 | 124 | 103 | 109 | 112 | 105 | 98 |
| Operating Costs | 111 | 134 | 88 | 85 | 80 | 80 | 70 | 70 |
| Other costs | 5 | 5 | 20 | 5 | 5 | 5 | 5 | 5 |
| EBITDA | -3 | -21 | 17 | 13 | 24 | 27 | 30 | 23 |
| Cashflow (A\$m) | | | | | | | | |
| Revenue | 112 | 118 | 124 | 103 | 109 | 112 | 105 | 98 |
| Operating Costs | -111 | -134 | -88 | -85 | -80 | -80 | -70 | -70 |
| Deferred royalty payments | | | | -8 | -6 | -4 | 0 | 0 |
| Other costs | -5 | -5 | -20 | -5 | -5 | -5 | -5 | -5 |
| Operating cash flow | 6 | 14 | -8 | 5 | 18 | 23 | 30 | 23 |
| Investing Cashflow | -15 | -40 | -31 | 8 | -5 | -5 | -25 | -25 |
| Debt repayments | 0 | 0 | 0 | 0 | -9 | -13 | -13 | -13 |
| Other financing cashflow | 4 | 52 | 0 | 0 | 0 | 0 | 0 | 0 |
| Free cash flow | -5 | 25 | -39 | 13 | 4 | 4 | -9 | -15 |
| Cash at period end | 44 | 70 | 35 | 47 | 51 | 55 | 46 | 31 |

Source: Company reports, Shaw and Partners forecasts

Figure 5: Bowen Coking Coal P&L

| Profit & Loss (A\$m) | 2021 | 2022 | 2023 | 2024f | 2025f | 2026f | 2027f | 2028f | 2029f | 2030f |
|---------------------------------|-----------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| ROM Coal production (kt) | | | | | | | | | | |
| Bluff | 0 | 0 | 482 | 346 | 0 | 0 | 0 | 0 | 0 | 0 |
| Burton Lenton | 0 | 0 | 1,177 | 2,385 | 2,750 | 4,300 | 4,300 | 4,300 | 4,300 | 4,300 |
| Total ROM production | 0 | 0 | 1,659 | 2,730 | 2,750 | 4,300 | 4,300 | 4,300 | 4,300 | 4,300 |
| Metallurgical Coal sales (kt) | 0 | 0 | 283 | 1,130 | 1,037 | 1,597 | 1,597 | 1,597 | 1,597 | 1,597 |
| Thermal Coal sales (kt) | 0 | 0 | 478 | 840 | 778 | 1,198 | 1,198 | 1,198 | 1,198 | 1,198 |
| Total Coal Sales (kt) | 0 | 0 | 761 | 1,971 | 1,815 | 2,795 | 2,795 | 2,795 | 2,795 | 2,795 |
| Benchmark HCC coal (US\$/t) | 136 | 406 | 280 | 288 | 260 | 255 | 250 | 245 | 244 | 249 |
| Thermal Coal (US\$/t) | 85 | 233 | 313 | 135 | 155 | 125 | 115 | 112 | 115 | 117 |
| Bowen average price (A\$/t) | | | 269 | 232 | 233 | 222 | 215 | 210 | 210 | 215 |
| Bowen average cash cost (A\$/t) | | | 321 | 178 | 144 | 140 | 143 | 146 | 149 | 152 |
| Bowen average margin (A\$/t) | | | -52 | 54 | 90 | 82 | 72 | 64 | 62 | 64 |
| Revenue | 0 | 12 | 204 | 458 | 423 | 621 | 600 | 587 | 588 | 601 |
| Operating costs | 0 | -20 | -244 | -350 | -261 | -391 | -399 | -407 | -415 | -424 |
| Royalties | 0 | 0 | -42 | -67 | -59 | -86 | -86 | -74 | -74 | -77 |
| Admin & other expenses | -3 | -9 | -57 | -33 | -2 | -2 | -2 | -2 | -2 | -2 |
| Total costs | -3 | -29 | -343 | -450 | -322 | -479 | -487 | -483 | -492 | -502 |
| EBITDA | -3 | -17 | -139 | 7 | 101 | 142 | 113 | 104 | 96 | 99 |
| Depreciation & Amortisation | 0 | -1 | -13 | -15 | -20 | -27 | -28 | -28 | -29 | -29 |
| EBIT | -3 | -18 | -152 | -8 | 81 | 115 | 85 | 75 | 68 | 69 |
| Net Finance Expense | 0 | -1 | -11 | -24 | -11 | -6 | -3 | -2 | -2 | -1 |
| Profit before tax | -3 | -18 | -163 | -32 | 70 | 109 | 82 | 73 | 66 | 68 |
| Income tax (expense)/benefit | 0 | 0 | 0 | 0 | 0 | 0 | -25 | -22 | -20 | -20 |
| Minorities | 0 | 0 | 0 | 2 | 6 | 9 | 7 | 6 | 5 | 5 |
| Reported NPAT | -3 | -18 | -163 | -34 | 64 | 101 | 51 | 45 | 41 | 42 |

Source: Company reports, Shaw and Partners analysis

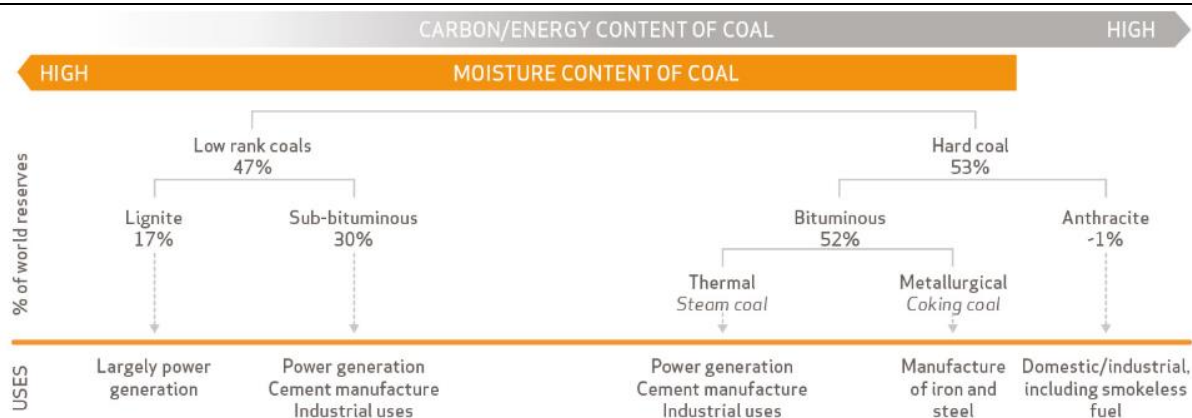
What is coking coal?

Coking coal, also known as metallurgical coal, is used in the production of iron and steel. At this stage there is no commercial substitute for the use of coking coal, and so whilst demand for thermal coal is expected to fall due to decarbonisation of power generation, demand for coking coal is likely to continue to rise with growth in global steel production. Around 1 billion tonnes of metallurgical coal are used in global steel production, which accounts for around 15% of total coal consumption worldwide.

Coal is an abundant resource and there are recoverable reserves in almost every country worldwide. The largest reserves are in the US, China, Russia and Australia. China is the world's largest producer of coal (thermal and coking) and Australia is the largest coking coal exporter with 2023 exports of around 173Mt accounting for 54% of global exports.

Coal is classified by its physical and chemical properties and is referred to as the 'rank' of the coal. The ranks of coals, from those with the least carbon to those with the most carbon, are lignite, sub-bituminous, bituminous and anthracite (figure 6).

Figure 6: Types of coal



Source: World Coal Association

Coking coals have high carbon or energy levels, low moisture contents and low impurities such as ash, sulphur and phosphorous. Coking coals are split into three main categories;

- **Hard coking coal (HCC)** - a necessary input in the production of strong coke. When heated in a coke oven (which has an absence of oxygen), hard coking coal will swell to form coke.
- **Pulverised Coal Injection coal (PCI)** - coal used for its heat value and injected directly into blast furnaces as a supplementary fuel, which reduces the amount of coke required and therefore costs.
- **Semi-soft coking coal (SSCC)** - used in the coke blend along with hard coking coal, but results in a low coke quality and more impurities. Semi-soft coking coal can also be sold as thermal coal.

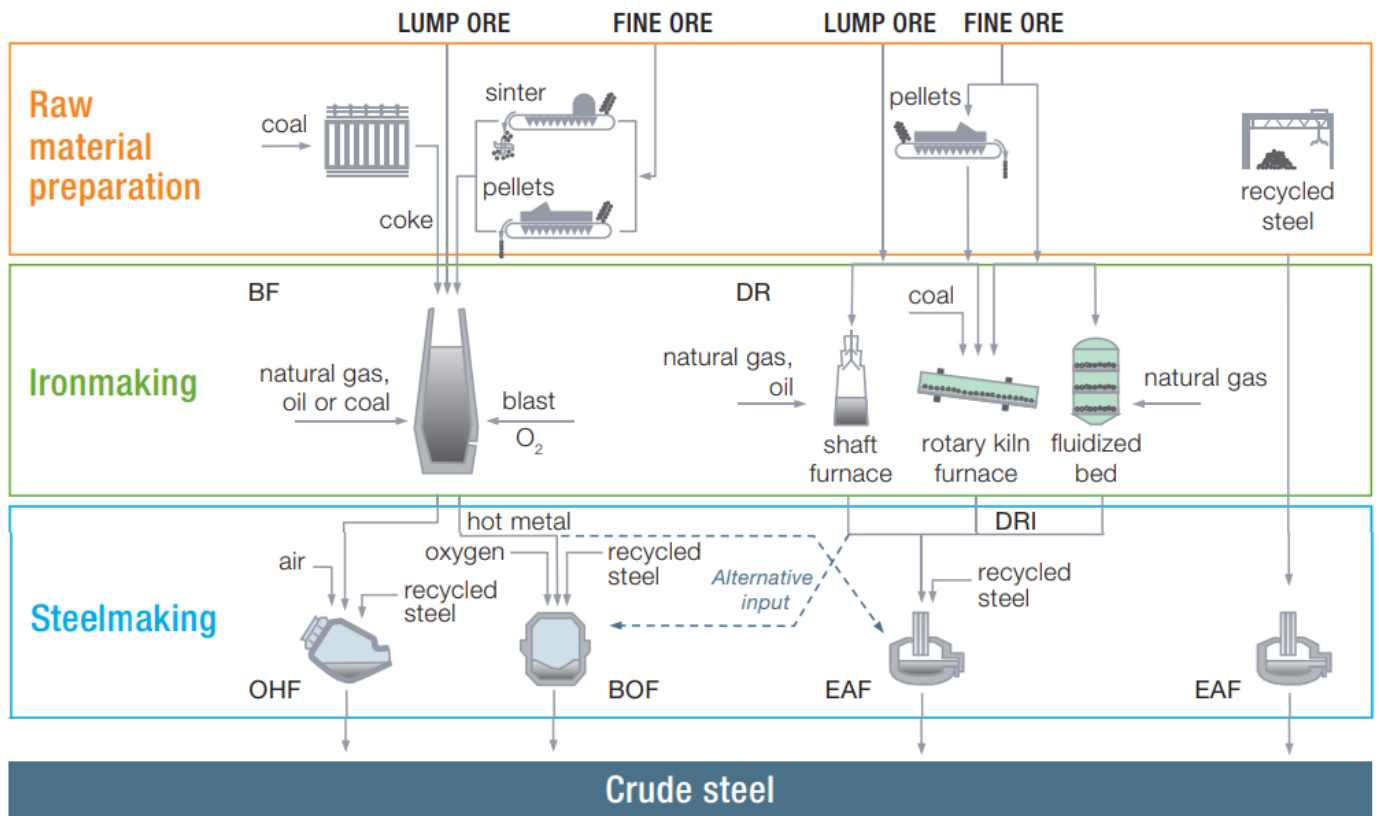
There are three different technologies in use for the production of iron and steel;

- **Integrated steel mills** based on the blast furnace (BF) and basic oxygen furnace (BOF), which uses raw materials including iron ore, coal, limestone and recycled steel. On average, this route uses 1,370 kg of iron ore, 780 kg of metallurgical coal, 270 kg of limestone, and 125 kg of recycled steel to produce 1,000 kg of crude steel. Approximately 70% of world steel is produced in integrated steel mills, although this is heavily weighted towards China.
- **Electric arc furnaces (EAF)** use recycled steel and electricity to convert steel scrap into steel products. About 30% of world steel is produced in EAF's although the

proportion is much higher in developed economies with a well-established steel scrap cycle.

- **Direct reduced iron (DRI)** converts iron ore into iron metal without the need for coking coal. This technology has proven difficult to commercialise in significant scale and very little steel is produced with this technology. BHP's Hot Briquetted Iron plant (HBI) and Rio Tinto's HiSmelt were examples of the DRI process.

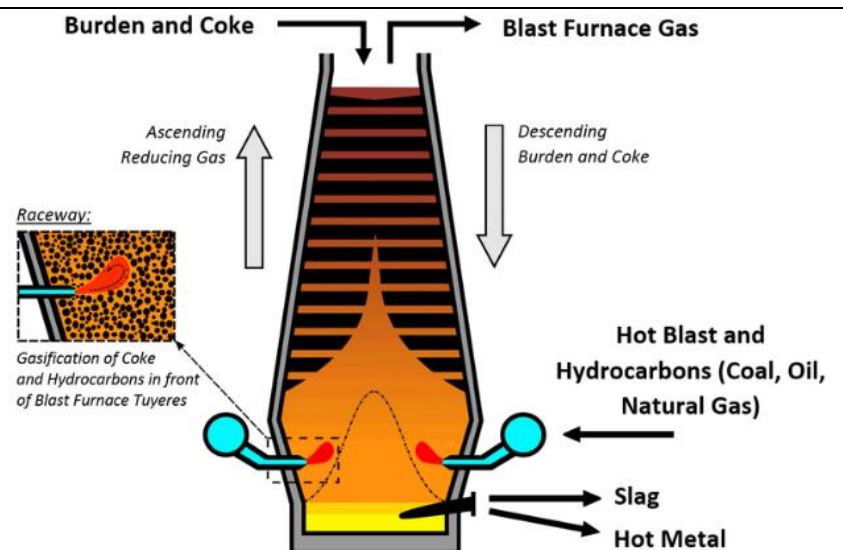
Figure 7: Steel making production routes



Source: World Steel Association

Coke is produced by heating coking coal in a coke oven in the absence of oxygen. Coke is then charged into a blast furnace to provide fuel and to convert iron ore into liquid iron.

Figure 8: Blast furnace schematic



Source: World Steel Association

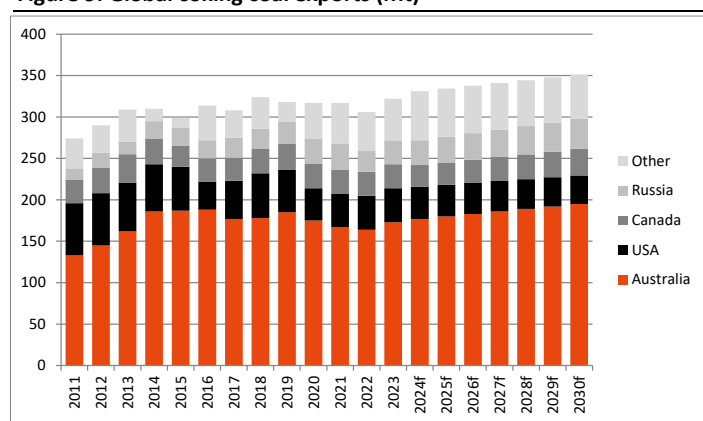
Coke provides three important functions in a blast furnace;

- provides a source of energy,
- acts as a reducing agent for the iron ore - combining with the oxygen to convert Fe_2O_3 (hematite) and Fe_3O_4 (magnetite) to liquid iron and CO_2 ,
- provides permeability to the blast furnace burden – larger blast furnaces require stronger coke in furnace to prevent the furnace from clogging up.

Whilst a strong coke is essential for a blast furnace to operate efficiently, it is relatively expensive and so furnaces will also use pulverized coal injection (PCI) coal to satisfy the first two functions above. PCI coals are generally cheaper and do not require a coke oven. Steel manufacturers also use a proportion of semi-soft coking coal in the coke mix to reduce overall costs.

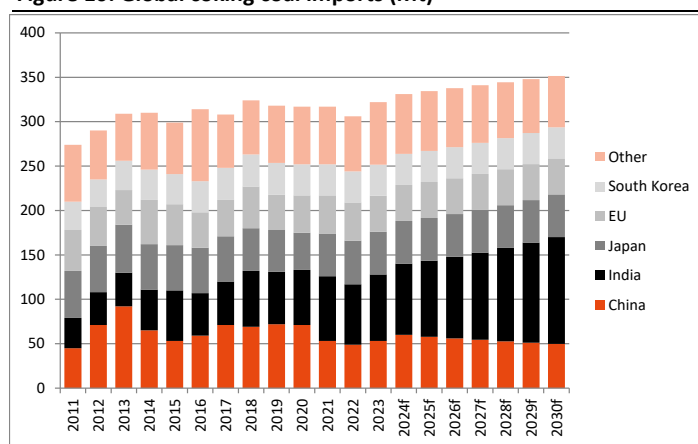
Of the 173Mt of metallurgical coal that was exported from Australia in 2023, around 117Mt was hard coking coal, 34Mt was PCI (pulverized injection coal) and 22Mt was semi-soft coal.

Figure 9: Global coking coal exports (Mt)



Source: Industry.gov.au/REQ, Shaw and Partners analysis

Figure 10: Global coking coal imports (Mt)



Source: Industry.gov.au/REQ, Shaw and Partners analysis

Australia's domination of coking coal exports is predicated on four major factors;

- **Coal quality.** Hard coking coal from Queensland's Bowen Basin is generally considered the best in the world and many benchmark prices for coking coal are based on Australian coals.
- **Proximity to markets.** Transportation costs form a significant portion of the landed cost of coal and so Australia's proximity to the key Asian markets of Japan, Korea, Taiwan and China provides a logistical advantage.
- **Growth** in the key Asian markets of Japan, Korea, India and China.
- **Customer equity in Australian mines.** Asian customers are often equity participants in Australian mines. Indeed, investment from Japanese customers was an important part of the process in opening up the Bowen Basin.

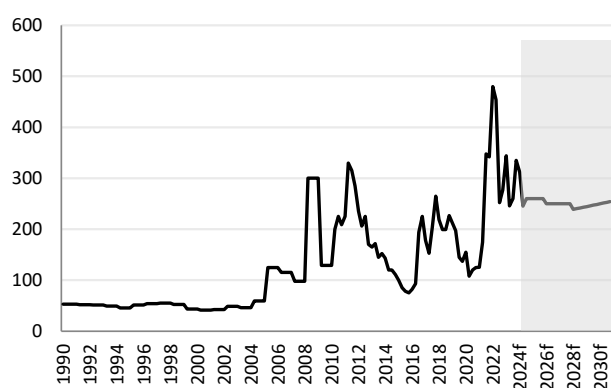
Coking coal price history and outlook

The trading dynamics of premium hard coking coal have changed enormously over the past 20 years due to the emergence of Chinese demand, and the breakdown in the contract negotiation process. Prior to 2005, the price was relatively stable at around US\$50/t, but in today's market prices can move sharply due to changes in China policy setting, supply disruptions due to weather or geopolitical events like the Russia invasion of Ukraine.

Prior to 2010, coking coal prices were set by quarterly contract negotiations between the sellers (BHP and Teck) and the customers (Japanese and Korean steel mills). Whilst quarterly contracts still exist, the bulk of sales are now tied to a daily price index formulated by Platts.

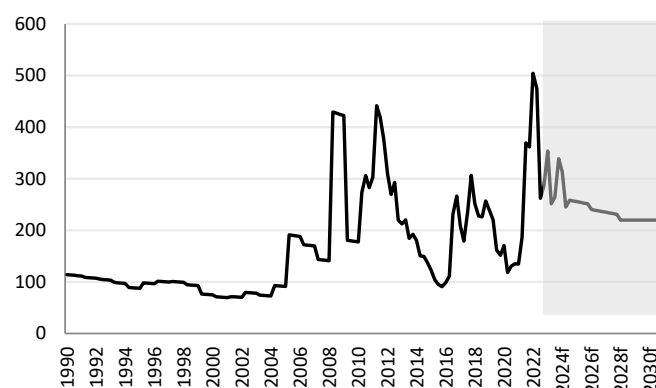
The coking coal price spiked to ~US\$500/t post the Russian invasion of Ukraine but traded as low as US\$75/t in early 2016 due to oversupply and weak demand in China.

Figure 11: Premium HCC price (US\$/t)



Source: Metal Bulletin, Factset, Shaw and Partners analysis

Figure 12: Premium HCC price (US\$/t real 2024\$)



Source: Metal Bulletin, Factset, Shaw and Partners analysis

We expect demand for coking coal exports to grow from 322Mt in 2023 to 351Mt in 2030 which is driven by steady demand in the traditional markets of Japan, Korea and Taiwan, a decline in Chinese demand, and strong growth in India.

India became the world's largest importer of coking coal in 2021 (73Mt) and we expect Indian import demand to grow to ~120Mt of imports (34% of world total) by 2030. India is the world's fastest growing steel producer and is reliant on imported coking coal.

China, on the other hand, is expected to reduce its demand for imported coking coal as steel production plateaus, and steel production shifts to recycled steel scrap.

KPMG collect and publish a regular quarterly update of consensus coking coal price forecasts. The long term price ranges from US\$144/t to US\$225/t, with the median at US\$185/t (US\$ real 2024). The forecast range for 2024 is from US\$185/t to US\$310/t. These forecasts were collected in January 2024.

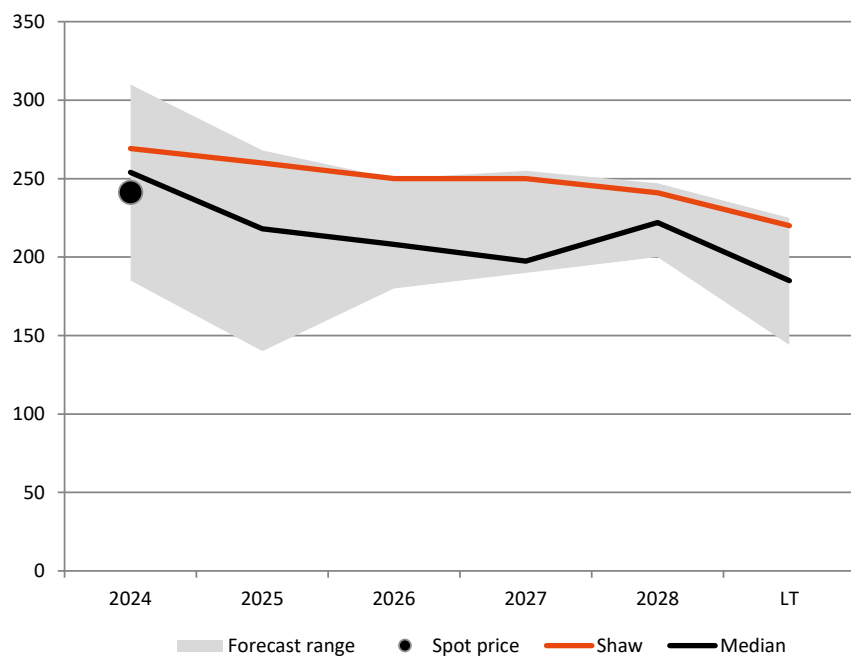
We note that our forecasts are at the top-end of consensus over the forecast period.

Figure 13: Premium Hard Coking Coal (US\$/t)

| Contributor | 2024 | 2025 | 2026 | 2027 | 2028 | LT |
|----------------|------------|------------|------------|------------|------------|------------|
| 1 | 294 | 260 | 245 | 255 | 247 | |
| 2 | 250 | 200 | 200 | | | 200 |
| 3 | 285 | 216 | | | | 180 |
| 4 | 310 | 214 | 180 | 190 | 200 | 144 |
| 5 | 269 | 200 | | | | |
| 6 | 235 | 240 | | | | 185 |
| 7 | 245 | 220 | 210 | | | 190 |
| 8 | 238 | 196 | 193 | 193 | | 185 |
| 9 | 220 | 180 | | | | 150 |
| 10 | 260 | 250 | 225 | | | 225 |
| 11 | 219 | 203 | | | | |
| 12 | 219 | 140 | | | | |
| 13 | 286 | 225 | 200 | 200 | 203 | 180 |
| 14 | 258 | 222 | | | | |
| 15 | 304 | 268 | | | | 225 |
| 16 | 249 | 228 | 208 | 195 | | 170 |
| 17 | 185 | 175 | | | | 180 |
| Shaw | 269 | 260 | 250 | 250 | 241 | 220 |
| Low | 185 | 140 | 180 | 190 | 200 | 144 |
| High | 310 | 268 | 250 | 255 | 247 | 225 |
| Average | 255 | 217 | 212 | 214 | 223 | 187 |
| Median | 254 | 218 | 208 | 198 | 222 | 185 |

Source: KPMG, Shaw and Partners

Figure 14: Premium Hard Coking Coal (US\$/t)



Source: KPMG, Shaw and Partners

Key risks

- Commodity prices are driven by global growth and the market's expectation of growth. In the current geo-political climate there are numerous risks to global growth expectations. Issues such as rising interest rates, the Russia/Ukraine war, supply chain issues and global trade imbalances have the potential to change global growth projections.
- The coal market is severely impacted by largely unpredictable movements in Chinese policy settings. Coal prices may be adversely impacted if China implements policies that reduce its reliance on seaborne coal.
- Forecasting future commodity prices and operating costs has considerable uncertainty. Our forecasts may prove to be too optimistic on both. If coal prices continue to reduce and/or Bowen Coking Coal's costs increase faster than we expect then our cash flow forecasts will be too high.
- Climate change is requiring a de-carbonisation of global energy production. Bowen Coking Coal is largely a coking coal producer so is less impacted than thermal coal mines, but all coal producers are under increased scrutiny and regulatory approvals may be harder to achieve than expected.
- Smaller companies carry more significant 'key personnel' risk than larger organisations. If senior management depart the company then it could delay projects or exacerbate operational risks.
- Bowen Coking Coal is operating in a region that is exposed to cyclone activity. Disruption to mining, rail and/or port operations is possible during the Queensland cyclone season.

Core drivers and catalyst

- Bowen Coking Coal Ltd is a coking coal exploration and development company based in the Bowen Basin in Queensland. The company's assets include Bluff (100%), Broadmeadow East (90%), Isaac River (100%), Lenton (90%), Burton (90%) Cooroorah (100%), Hillalong (85%) and Comet Ridge (100%). Bowen is also a joint venture partner with Stanmore Coal Limited in the Lilyvale (15% interest) and Mackenzie (5% interest) coking coal projects.
- On 4 July 2022 Bowen announced the first shipment of metallurgical coal from the Bluff Project which moved the company into production for the first time. Bowen also acquired and is refurbishing the 5.5mtpa Burton coal handling and preparation plant (CHPP). Stage 1 is complete and provides 2.7mtpa of was capacity and stage 2 is expected to be completed in 2025.
- There is a clear growth pathway to production of 4-5Mtpa over the next 2-3 years as the company develops the Ellensfield South and Lenton resources and there are growth opportunities at Hillalong.
- Coking coal is used in the steel-making process in blast furnaces and has very different demand dynamics to thermal coal which is used to generate electricity in coal-fired power stations. Global steel production is continuing to grow in-line with global GDP, and is particularly fast growing in the developing world (e.g. India). We forecast global coking coal seaborne trade to grow from 322Mt in 2023 to 351Mt in 2030.

Rating Classification

| | |
|------------------|--|
| Buy | Expected to outperform the overall market |
| Hold | Expected to perform in line with the overall market |
| Sell | Expected to underperform the overall market |
| Not Rated | Shaw has issued a factual note on the company but does not have a recommendation |

Risk Rating

| | |
|---------------|---|
| High | Higher risk than the overall market – investors should be aware this stock may be speculative |
| Medium | Risk broadly in line with the overall market |
| Low | Lower risk than the overall market |

RISK STATEMENT: Where a company is designated as ‘High’ risk, this means that the analyst has determined that the risk profile for this company is significantly higher than for the market as a whole, and so may not suit all investors. Clients should make an assessment as to whether this stock and its potential price volatility is compatible with their financial objectives. Clients should discuss this stock with their Shaw adviser before making any investment decision.

Distribution of Investment Ratings

| Rating | Count | Recommendation Universe |
|--------|-------|-------------------------|
| Buy | 69 | 91% |
| Hold | 6 | 8% |
| Sell | 1 | 1% |

History of Investment Rating and Target Price - Bowen Coking Coal Ltd

| Date | Closing Price (\$) | Target Price (\$) | Rating |
|-----------|--------------------|-------------------|--------|
| 20-May-24 | 0.07 | 0.24 | Buy |
| 29-Jan-24 | 0.07 | 0.23 | Buy |
| 17-Nov-23 | 0.10 | 0.23 | Buy |
| 24-Oct-23 | 0.10 | 0.27 | Buy |
| 2-Oct-23 | 0.15 | 0.29 | Buy |
| 29-Aug-23 | 0.10 | 0.31 | Buy |
| 26-Apr-23 | 0.24 | 0.48 | Buy |
| 6-Apr-23 | 0.25 | 0.48 | Buy |
| 7-Nov-22 | 0.29 | 0.47 | Buy |
| 20-Jul-22 | 0.27 | 0.50 | Buy |

Disclaimer

Shaw and Partners Limited ABN 24 003 221 583 ("Shaw") is a Participant of ASX Limited, Cboe Australia Pty Limited and holder of Australian Financial Services Licence number 236048.

ANALYST CERTIFICATION: The Research Analyst who prepared this report hereby certifies that the views expressed in this document accurately reflect the analyst's personal views about the Company and its financial products. Neither Shaw nor its Research Analysts received any direct financial or non-financial benefits from the company for the production of this document. However, Shaw Research Analysts may receive assistance from the company in preparing their research which can include attending site visits and/or meetings hosted by the company. In some instances the costs of such site visits or meetings may be met in part or in whole by the company if Shaw considers it is reasonable given the specific circumstances relating to the site visit or meeting. As at the date of this report, the Research Analyst does not hold, either directly or through a controlled entity, securities in the Company that is the subject of this report, or where they do hold securities those interests are not material. Shaw restricts Research Analysts from trading in securities outside of the ASX/S&P100 for which they write research. Other Shaw employees may hold interests in the company, but none of those interests are material.

DISCLAIMER: This report is published by Shaw to its clients by way of general, as opposed to personal, advice. This means it has been prepared for multiple distribution without consideration of your investment objectives, financial situation and needs ("Personal Circumstances"). Accordingly, the advice given is not a recommendation that a particular course of action is suitable for you and the advice is therefore not to be acted on as investment advice. You must assess whether or not the advice is appropriate for your Personal Circumstances before making any investment decisions. You can either make this assessment yourself, or if you require a personal recommendation, you can seek the assistance of your Shaw client adviser. This report is provided to you on the condition that it not be copied, either in whole or in part, distributed to or disclosed to any other person. If you are not the intended recipient, you should destroy the report and advise Shaw that you have done so. This report is published by Shaw in good faith based on the facts known to it at the time of its preparation and does not purport to contain all relevant information with respect to the financial products to which it relates. The research report is current as at the date of publication until it is replaced, updated or withdrawn. Although the report is based on information obtained from sources believed to be reliable, Shaw does not make any representation or warranty that it is accurate, complete or up to date and Shaw accepts no obligation to correct or update the information or opinions in it. If you rely on this report, you do so at your own risk. Any projections are indicative estimates only and may not be realised in the future. Such projections are contingent on matters outside the control of Shaw (including but not limited to market volatility, economic conditions and company-specific fundamentals) and therefore may not be realised in the future. Past performance is not a reliable indicator of future performance. Except to the extent that liability under any law cannot be excluded, Shaw disclaims liability for all loss or damage arising as a result of any opinion, advice, recommendation, representation or information expressly or impliedly published in or in relation to this report notwithstanding any error or omission including negligence.

Depending on the timing and size of your investment, your portfolio composition may differ to the model. Performance figures are derived from the inception date of the model and its investment transactions from that date, therefore the performance for your portfolio may be different. If you have any questions in connection with differences between your portfolio and the model, you should speak with your adviser.

DISCLOSURE: Shaw will charge commission in relation to client transactions in financial products and Shaw client advisers will receive a share of that commission. Shaw, its authorised representatives, its associates and their respective officers and employees may have earned previously or may in the future earn fees and commission from dealing in the Company's financial products. Shaw acted for the company in a corporate capacity within the past 12 months for which it received a fee.

| | | | | | | |
|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Sydney Head Office | Melbourne | Brisbane | Adelaide | Canberra | Perth | Noosa |
| Level 7, Chifley Tower | Level 36 | Level 28 | Level 25 | Level 9 | Level 47 | Suite 11a Q Place |
| 2 Chifley Square | 120 Collins Street | 111 Eagle Street | 91 King William Street | 5 Constitution Avenue | 108 St Georges Terrace | 2 Quamby Place |
| Sydney NSW 2000 | Melbourne VIC 3000 | Brisbane QLD 4000 | Adelaide SA 5000 | Canberra ACT 2601 | Perth WA 6000 | Noosa Heads QLD 4567 |
| Telephone: +61 2 9238 1238 | Telephone: +61 3 9268 1000 | Telephone: +61 7 3036 2500 | Telephone: +61 8 7109 6000 | Telephone: +61 2 6113 5300 | Telephone: +61 8 9263 5200 | Telephone: +61 7 3036 2570 |
| Toll Free: 1800 636 625 | Toll Free: 1800 150 009 | Toll Free: 1800 463 972 | Toll Free: 1800 636 625 | Toll Free: 1800 636 625 | Toll Free: 1800 198 003 | Toll Free: 1800 271 201 |