# RESEARCH INDEPENDENT INVESTMENT RESEARCH

# Bowen Coking Coal Ltd (ASX:BCB)

January 2024



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### **Bowen Coking Coal Ltd**

(ASX:BCB)

Investment Profile	
Share Price (\$) at 3 January 2024	0.098
Issue Capital:	
Ordinary Shares (M)	2843.9
Options (M)	19.2
Warrants (M)	100.0
Performance Shares (M)	30.1
Convertible Notes A\$40M converted at rate applying today	155.0
Fully Diluted (M)	3148.1
Market Capitalisation (M)	\$278.7
12 month L/H (\$)	0.076-0.345

#### **Board and Management**

Nick Jorss — Executive Chairman

Neville Sneddon — Non—Executive Director

David Conry -Non—Executive Director

Mark Ruston — Chief Executive Officer

Daryl Edwards — CFO

Duncan Cornish - Company Secretary

Major Shareholders as at	
Regal Funds Management	13.2%
Crocodile Capital	9.7%
Kirmar	6.3%
Ilwellia	6.2%
Latimore Interests	4.0%
Directors	2.3%



**Note:** This report is based on information released to the market by the company up to 3 Jauary 2024

#### PRODUCTION BASE ACHIEVED - EXPANSION TO COME

Bowen Coking Coal Ltd has emerged as a Queensland Australia based coking and thermal coal producer with a current capacity at its flagship Burton Complex operation of 2.75Mtpa raw coal and can expand to 5.5Mtpa raw coal at a very low cost. The response to the Climate Emergency is likely to drive above trend demand for carbon reduced steel so the world is likely to need coking coal for the next 100 years or more, and thermal coal is likely to have a big role in emerging countries for decades.

#### **KEY POINTS**

**Bowen is steadying the ship after a very rough 12 months** – The failure of Bowen's first operating mine to deliver the expected volume and cost performance is the key cause of the company's financial difficulties over the last year. The failure of Bluff in what was a sensationally strong coal market denied the company the cash flow to bankroll the development of Broadmeadow East and Burton operations, forcing the capex deferral, restructuring of debt repayments, and raising of equity.

**New mines performing to expectation** – Broadmeadow East performed to expectation, and with Ellensfield South mine at the Burton complex coming online, we believe the company is now on a firm operational footing. Ellensfield South is short life and development of Plumtree North is essential to maintain capacity. We expect that additional development cost will be covered by cash flow.

**Expansion to come** – On our near term coal price forecast, Bowen will be able to fund the expansion to 5.5Mtpa ROM or 3.6Mtpa saleable product, almost doubling free cash flow.

**Coal prices short term are highly seasonal with October - March the higher prices** – It is all about the weather. Australian supply is at risk of disruption due to rain events during the Australian wet season (December to March), while Indian demand is often reduced during its monsoon season (June to September). Coking coal prices in both seasons continue to surprise forecasters to the upside. Bowen realised prices follow the spot market with a 2-3 month lag.

Risks to coal industry from Climate Change policy – Until there is massive investment in new steelmaking capacity that doesn't use coal, coal using steelmaking must continue. On the International Energy Authority's roadmap to net zero, the steel industry is still expected to consume 540Mtpa of coking coal in 2050, so Bowen will have a market to contest for a period well beyond its reserve life. There are technical reasons to suggest that coking coal will never be replaced in steel making.

#### FUTURE DRIVERS OF THE BOWEN SHARE PRICE:

- Evidence of strong operational cash generation should be in clear view in the March 2024 quarterly report due around 25 April 2024, and early evidence should be contained in the December 2023 quarterly report due around 29 January 2024. The December Quarter will include payment of costs built up in previous quarters which have to be separated from ongoing operating costs. EBITDA is expected to be A\$30-40M per quarter depending on coal prices at current capacity of 2.4-2.7Mtpa ROM.
- The quarterly is also likely to demonstrate that the company's mines are producing as expected, and that operating costs and capital spending are becoming predictable, as are the prices Bowen is achieving relative to coal benchmark prices. Greater predictability means less risk for investors and a higher market rating flowing to a higher share price.
- Commitment to the expansion to 5.5Mtpa adds long term cash flow and coal price leverage but adds short term risk in the event of a sharp fall in coal prices. We do not see expansion as a necessary condition to share price performance and delaying expansion to build a cash buffer is a strategy worth considering.

Further developments like the sale of Isaac River or Scoping Study on the development of Hillalong would also have a positive impact. There is no timing for these events, but if Isaac River is to be sold, it has to be in the next 12 months otherwise Bowen will probably be better off developing the project in its own right.

#### **VALUATION**

Our base case valuation assumes no further share issuance other than conversion of existing warrants, options and performance rights and US\$280/t Hard Coking Coal and AUDUSD 0.66 which generates a valuation of A\$0.21/sh. On consensus price expectations of US\$210/t, the valuation is negative, suggesting the market is ignoring consensus, but still reluctant to fully embrace the price levels of the last three years. IIR expects that reluctance should fade as the market becomes more confident in higher prices for coal long term.

#### OVERVIEW: FINDING ITS FEET IN STRONG COAL MARKET

#### SOME DEFINITIONS

This report frequently uses terms which may not be familiar to investors new to the coal sector.

**ROM** - Run of Mine or raw coal production of which about 65-70% is yielded as saleable coal.

Thermal Coal - Coal used to burn in power stations for energy and in cement kilns for heat.

**NEWC** – Newcastle Port Australia thermal coal price index in US\$/t FOB with contained energy of 6000k Calories per tonne - FOB means the coal price is at the point where the coal has been loaded into the ships hold at port.

API5 - As for NEWC but for a lower quality of thermal coal containing 5500kCal/tonne energy.

**LVPCI** – Low Volatile Pulverised Coal Injection coal sold to the steel industry for its energy content.

**LVHCC** – Premium Low Volatile Hard Coking Coal sold to the steel industry to make coke for blast furnace steel making. In the blast furnace, coke provides the carbon that strips the oxygen out of the iron ore, and provides the furnace with the porosity required to allow heat in the form or gas to circulate (ie the blast).

#### **BOWEN INVESTMENT PROPOSITION**

Bowen is valued at A\$0.21/sh and is very sensitive to coking and thermal coal prices as well as the Australian US dollar exchange rate, which we see as a positive in the longer term, but short term price falls during periods of high capital spending could threaten the company's viability.

The share price has been discounted below fundamental value by the heavy share issuance over the last year and will rebound as investors see greater predictability in costs and volumes and also evidence of solid cash generation from operations which we expect to see in the March 2023 quarter and possibly in the December 2023 quarter, subject to how quickly current stronger coking coal prices flow through to Ellensfield South coal sales.

Longer term prices of coking and thermal coal are likely to surprise to the upside due to the capital strike against the coal industry globally, hence our expectation of above consensus coal prices for at least the life of Bowen's current Reserves.

#### Bowen should survive and thrive at current coal prices

The table below is the essence of the Bowen Investment proposition. It shows the November 2023 capital raise was required to deal with unpaid creditors from June 2023 and the funding of Ellensfield South startup.

From FY25, the company is forecasting to produce over 2mtpa saleable product at an operating cost including royalties of A\$170-190/t FOB and selling for A\$240-260/t, generating A\$140M pre tax cash flow per year.

This is sufficient to repay the debt on the new revised schedule and pay for the capital required to expand to 5.5Mtpa ROM, which will further increase the cash generation potential.

Table 1 Quarterly Cash Flow highlighting de-risking and impact of coal price strength

Quarterly	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24
Revenue	120.5	139.6	139.7	130.4	109.7	127.1
Own Operating Costs	-86.0	-96.2	-87.6	-72.6	-67.9	-73.2
Royalties	-9.7	-16.8	-24.8	-25.2	-18.6	-20.7
Depn	-13.7	-13.4	-9.1	-6.5	-6.5	-7.4
Operational EBIT	11.1	13.1	18.1	26.1	16.8	25.9
Corporate	-4.4	-4.0	-4.0	-4.0	-4.0	-4.0
EBIT	6.7	9.1	14.1	22.1	12.8	21.9
Interest Paid	0.0	-3.1	-3.1	-3.1	-3.0	-2.7
PBT	6.7	5.9	11.0	19.0	9.7	19.2
Tax Payable	0.0	0.0	0.0	0.0	0.0	0.0
NPAT	6.7	5.9	11.0	19.40	9.7	19.2
Operational Capex	-30.5	-18.0	0.0	-20.7	0.0	-26.1
JV Partner Prepayment	17.0	-17.0	13.0			
Security Deposits			-16.5			
Accrued Expenses	-25.0	-36.2				
Onerous Contracts			-16.5			
Reverse Royalty Expense	9.7	16.8	24.8	25.2	18.6	20.7
Deduct Royalty Paid	0	-9.7	-16.8	-24.8	-25.2	-18.6
Deferred State Royalties		-3.9	-5.9	-5.9	-5.9	-2.0
Share Issues	14.1	52.8				
Exercise of Warrants		2.9	2.9	2.9	2.9	
Debt Repayment	-10.0	-1.2	-1.3	-1.3	-10.6	-13.8
Cash Flow	-4.1	5.9	3.8	0.8	-4.1	-13.3
Cash on Hand	44.4	50.3	54.2	55.0	50.9	37.3
Sales (Own Production) Mt						
Ellensfield HCC	0	144	192	192	192	192
Broadmeadow SHCC	182	108	72	72	72	108
Bluff LVPCI	126	100	36	0	0	0
Burton Thermal	254	222	196	196	196	246
Total	562	574	496	460	460	546
Op Cost excl State royalties A\$/t	199	167	177	158	148	134
Realised Selling Prices US\$/t						
LVHCC less 20%	212.48	216.00	264.00	264.00	224.00	225.39
LVHCC less 30%	185.92	189.00	231.00	231.00	196.00	197.21
Bluff LVPCI	172.69	198.00	243.75	184.92	210.00	211.30
NEWC less 40%	89.40	82.80	80.40	95.58	78.00	78.48
AUDUSD	0.66	0.64	0.66	0.66	0.66	0.66
Calculated Revenue	0.00	0.04	0.00	0.00	0.00	0.00
HCC	0.0	48.4	77.0	76.8	65.2	65.6
SHCC	51.4	31.7	25.3	25.2	21.4	32.3
LVPCI						
	31.2	30.8	13.4	0.0	0.0	0.0
Thermal	34.5	28.6	24.0	28.4	23.2	29.3
Total	117.1	139.6	139.7	130.4	109.7	127.1

Sources: BCB 2023 annual report, BCB September quarterly, loans refer Table 11, security deposits per p6 of presentation on 2 November 2023, JV partner prepayment per release on 11 July 2023, deferred royalty payment per p11 of September 2023 Quarterly Activities Statement and note 21 2023 annual report, IIR estimates

Looking more closely at the table above, the investor should note the following elements:

♦ There are a number of very large cash outflows detailed in Note 21 of the June 2023 accounts including Accrued Expenses of A\$61M of which around A\$25M was paid in the September quarter and we assume the balance in the December quarter; the final payout of the Onerous Contract relating to ceasing operations at Bluff and relating to the mining and coal processing contracts that Bluff was party to; and payment of State royalties which had been building up to September 2023, and now repayable over the next 12 months.

- ♦ The Joint Venture partner payments include a prepayment of A\$17M in the September 2023 quarter, a repayment of A\$17M by Bowen in the December Quarter and the A\$13M cash payment to complete the purchase of 10% of Broadmeadow by Formosa in the March quarter.
- ♦ The A\$10M payment against the New Hope debt flagged in September 2023 was repaid late in the September 2023 quarter by the issue of shares but not mentioned in the cash flow statement because it was considered a non-cash transaction. We treat the issue and repayment as two separate cash items in the table above.
- ♦ The quarterly cost of Bowen's corporate office is modelled at A\$4M/quarter based on the costs reported in the September 2023 guarter.
- ♦ Interest Expense is sourced from the Debt Schedule (see Table 11).
- The operating cash cost (A\$/t FOB) shown in the middle of the table below averages A\$158/t FOB in FY24 vs guidance of A\$155-175/t FOB and trends down to A\$135/t in the December 2024 vs guidance of A\$135/t FOB (refer Table 14).
- The coking and thermal prices used are guided by the futures price curve at 30 November 2023 and the commentary from other listed coal exporters but lagged one quarter. That means that Bowen will see the current US\$330/t FOB price for Premium Low Volatile Coking Coal flow through to its sales in the March and June quarters (see Table 13).

#### Bowen's cash balance needs to be at least A\$40M and should be more for safety

With an operating cost of around A\$90M per quarter or A\$30M per month, Bowen needs the have at least A\$40M of cash on hand to support operations, and preferably more going into the wet season from December 2023 to April 2024 to cope with weather related disruption. We are forecasting end of December 2023 quarter cash of over A\$50M which provides some buffer but more would be better.

#### **VALUATION: CENTRAL VALUE A\$0.21/SH**

- Valuation of NPV A\$0.21/sh with high sensitivity to Australian dollar coal prices
- Valuation on asset values (breakup value) A\$0.18/sh to A\$0.21/sh
- ♦ Valuation on earnings at PER 8x A\$0.27/sh to A\$0.46/sh but very sensitive to coal prices

#### **VALUATION ON CASH FLOWS**

Table 2 Valuation of A\$0.21/sh based on Net Present Value at 9.5%pa discount rate

Net Present Value	Jur	1-24	Jun	ı <b>-25</b>
All asset valued after tax	A\$M	A\$/sh	A\$M	A\$/sh
Broadmeadow	66.3	0.02	24.6	0.01
Burton Lenton	487.1	0.17	532.3	0.18
Hillalong 20% Risked	67.9	0.02	78.0	0.03
Isaac River	72.5	0.03	79.4	0.03
Bluff Act	0.0	0.00	0.0	0.00
Exploration	10.0	0.00	10.0	0.00
Corporate Overhead	-67.3	-0.02	-62.2	-0.02
Tax Benefit	53.0	0.02	29.3	0.01
Cash on hand	55.0	0.01	39.2	0.01
Debt	-153.8	-0.05	-103.2	-0.04
Net Working Capital	-2.4	0.01	20.4	0.01
Valuation A\$M	588.3	0.21	647.7	0.22
Issued Shares		2844		2933

Source: IIR estimates, for calculation of the 9.5%pa discount rate refer to Table 22

#### Premium Low Volatile Hard Coking Coal price long term US\$280/t and AUDUSD 0.66

US\$280/t FOB Queensland has been chosen as our long-term price. It is towards the bottom end of the price range which IIR believes the Premium Low Volatile Hard Coking Coal benchmark will trade in the next five years (Figure 6) and substantially above the US\$210/t FOB consensus long term forecast. It is close to the average of the price lows in 2022 and 2023, years which

saw price highs of between US\$340-440/t FOB. The Hard Coking Coal futures price was forecasting US\$269/t FOB to December 2025 on 30 November 2023.

#### Highly sensitive to coal prices

The Bowen valuation is highly sensitive to coal prices in Australian dollars.

- ◆ +US\$10/t or A\$15/t on the Hard Coking Coal price adds A\$58.6M or 2.1cps to valuation.
- ♦ +US\$10/t or A\$15/t on thermal coal prices adds A\$31/.M or 1.1cps to valuation.
- ♦ +0.05 increase in the AUDUSD rate deducts A\$138M or 4.9cps to the valuation.

#### Hillalong discounted

The values of Hillalong is discounted because it is some way off being commercial, and has yet to publish a Scoping or Feasibility Study, so Bowen's 80% share is valued at 20% of its estimated Net Present Value to be conservative. This brings its valuation more into line with the A\$40M farm in valuation Sumitomo is contributing to buy into the project (Table 3).

#### Isaac River valuation discounted due to delayed development

Isaac River discounted to A\$72.5M because its development has been pushed out to 2026 in our forecasts. Isaac River has been flagged as an asset the Bowen could sell. If priced on the same basis as a Whitehaven's Daunia purchase the value would be A\$22.7m to A\$44.5M (Table 3) and in our view highlights the bargain price paid by Whitehaven.

#### Bluff valued at zero

Bluff is assumed to be worth nothing, despite the 2023 annual report commenting that it is a valuable asset and would come back online quickly with the right PCI coal prices. However, Bowen has not provided a new mine plan nor feasibility study on which to base a value. We accept that at some coal price level, the asset is valuable, but we do not know what the longer-term cost structure is, and until the company publishes a new mine plan and cost structure, Bluff will remain unvalued.

#### VALUATION OF OTHER PROJECTS A\$6-24M - BASE CASE A\$10M

The other projects are Cooroorah, Comet Ridge, Lilyvale and Mackenzie, which with part of Hillalong (ie Mt Hillalong) comprise the original Asset Package purchased by the company.

The price paid by the company for that Asset Package was 141.7M shares and A\$0.35M cash. The issue price of the shares was A\$0.023/sh valuing the entire package at A\$3.6M.

On 11 October 2017, when trading resumed post completion of the acquisition and related rights issue, Bowen had 469.5M shares on issue at a share price of A\$0.023/sh and A\$4.45M in cash, giving an enterprise value for the Asset Package of A\$6.3M. On this basis, we have set A\$6M as the lower end of our valuation range for these assets.

Since then, the Cooroorah project Resource has grown to 177Mt, and is clearly more valuable now than at the time of acquisition. Also, coal prices are considerable higher, which would also have the effect of increasing the value of the Asset Package. The total Resource of the Assets is 242Mt (Cooroorah 177Mt, Comet Ridge 60Mt and Lilyvale 5Mt). At a conservative A\$0.10/t valuation, we have set the upper end of our valuation range at A\$24M.

Our base case valuation of Bowen assumes these exploration assets are worth A\$10M, ie toward the lower end of the range. We value Hillalong Open Pit separately, which was purchased from Rio Tinto in 2018. The Hillalong in the original package is Mt Hillalong, the down dip extension most likely to be mined by underground methods.

#### VALUATION OF A\$0.18-0.21/SH ONTRADED ASSET PRICES

Table 3 Valuation of Bowen on a breakup value at recent asset transactions at A\$0.18-0.21/sh

	Mt RC	M	Value A\$/	Value A\$/t ROM		Value A\$M		of Value A\$M
	Resource	Mine Plan	Resource	Mine Plan	Resource	Mine Plan	Resource	Mine Plan
Isaac River (1)	9	2.65	2.52	16.8	22.7	44.5	22.7	44.5
Broadmeadow E (2)	32	3.1	4.06	41.9	130.0	130.0	117.0	117.0
Hillalong (3)	106		0.47		50.0		40.0	40.0
Burton (1)	64	16	2.52	16.8	161.3	268.8	145.2	241.9
Lenton (1)	140	19	2.52	16.8	352.8	235.2	317.5	287.3
Total							642.4	730.7
Debt June 23							-170.6	-170.6
Working Capital June 23							-43.4	-43.4
Cash Raised Since June 23							71.1	71.1
Net Value A\$M							499.5	587.8
Issued Shares M							2844	2844
Net Value A\$/sh (4)							0.176	0.207

Source: Working Capital, Debt, Resources and Reserves from 2023 annual report and for Lenton Reserves BCB release 1 November 2023, valuation metrics: (1) WHC purchase of Blackwater and Daunia 18 October 2023 for more detail refer Appendix 1 at the end of this report; (2) Formosa Plastics purchase of 10% see BCB release 11 July 2023; Sumitiomo buy in valuation see BCB release 29 June 2023

On 11 July 2023, BCB has announced its intention to sell 10% of Broadmeadow East for cash consideration of A\$13M (ie A\$1.3M/1%). This has not occurred at time of writing but we assume it occurs in the March 2024 quarter and is backdated to the 1 July 2023.

On 29 June 2023, Sumitomo chose to earn another 5% by funding A\$2.5M in Hillalong exploration expenditure (ie A\$0.5m/1%) making Bowen's 80% worth A\$40M.

Whitehaven Coal has purchased 100% of the Daunia and Blackwater coal mines from BHP Mitsubishi for US\$3200M or A\$2.52/t Resources and A\$16.8/t Reserves or Mine Plan production. Daunia is adjoining Isaac River and is similar in coal quality and stripping ratio but much larger. For more detail on this transaction, see Appendix 1.

Using these valuation metrics, a net asset value for Bowen of between A\$0.18/sh and A\$21/sh is generated, and represents what Bowen would be worth is liquidated in the current market.

However, we believe that these asset values understate the value of coal assets in production. The sale of Blackwater and Daunia was driven by BHP's need to exit coal, which is likely to be a political decision rather than a commercial one, and there is a very limited pool of buyers for coal assets of this size. The average cash margin on each tonne sold is expected to be around A\$250/t, and the sale price values those tonnes at A\$21/t (ie A\$16.80/t ROM divided by 80% yield to get A\$21/t saleable coal). The difference between A\$21/t and A\$250/t is evidence of very heavy discounting, and Whitehaven appears to have made a very value accretive purchase.

Because Whitehaven's purchase price has a payback of around 18 months, we believe asset valuations are valid reflections of the current asset market, but not a reflection of the actual value of production assets.

Because Bowen has indicated that it would like to sell Isaac River, it is appropriate to value that asset at the prices prevailing in the current asset transaction market, but for the other assets, a cash flow valuation should be used.

#### VALUATION ON EARNINGS A\$0.27/SHTO A\$0.46/SH

Table 4 Profit & Loss showing earnings based valuation on PER 8x

PROFIT & LOSS	Jun-23	Jun-24	Jun-25	Jun-26	Jun-27	Jun-28
Revenue	210	520	589	782	920	1068
Operating Costs	-275	-429	-441	-579	-680	-790
Corporate OH	-40	-16	-16	-17	-17	-18
Exploration	0	0	0	0	0	0
Costs	-315	-445	-458	-596	-697	-808
EBITDA	-105	75	132	187	223	260
D&A	-48	-42	-34	-46	-53	-59
EBIT	-153	33	98	141	170	201
Interest Costs	-23	-23	-19	-9	-1	4
PBT	-163	10	79	132	169	205
Tax Expense	0	0	0	-10	-51	-61
NPAT	-163	10	79	121	118	143
Dividend \$/sh	0.00	0.00	0.00	0.00	0.00	0.01
Franking	0%	0%	0%	0%	0%	100%
Payout Ratio	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%
Shares on Issue	2110	2844	2933	2933	3152	3152
Diluted Shares on Issue	2275	2933	2933	2933	3152	3152
Adj EPS A\$/sh	-0.072	0.004	0.027	0.042	0.038	0.046
Options on Issue M	164.3	89.3	0.0	0.0	0.0	0.0
Share Price A\$/sh at PER 8x	na	0.038	0.270	0.414	0.375	0.455

Source: BCB 2023 annual report, IIR estimates

The ASX is currently trading on a Price Earnings Ratio (PER) of 18.8x (Source: https://www.marketindex.com.au/statistics). This PER reflects the expectation that over time, equity earnings will continue to grow in perpetuity. Bowen will grow earnings from its current base, but on its current resource base, the growth and its overall life is limited so it has to be valued on a lower PER.

Whitehaven Coal is trading on a PER of 2.4x on last years exceptionally high earnings driven by unsustainable record high thermal coal prices caused by the Ukraine Invasion. That PER is too low to be applied to forward looking earnings.

We believe a PER of 8x on trend earnings strikes the appropriate balance, which generates a share price range of A\$0.27/sh to A\$0.45/sh on near years. A lower PER would apply to later years as the mine life becomes shorter. This could change if Hillalong proved to be economic, or the company acquired additional Reserves.

Table 5 Cash Flow Statement - Operational cash flow in FY25 A\$111M, FY27 A\$185M

CASH FLOW	Jun-23	Jun-24	Jun-25	Jun-26	Jun-27	Jun-28
Receipts From Customers	185	499	582	761	905	1052
Payments to Suppliers	-297	-485	-471	-640	-720	-803
Cash Flow from Operations	-112	15	111	121	185	249
Interest Received	0	0	0	0	1	2
Financing Costs	-7	-23	-19	-10	-1	2
Taxes Paid	0	0	0	0	-10	-51
Net Cash from Operations	-119	-8	93	112	174	202
PP&E	-60	-47	-67	0	0	0
Acquisitions	-22	0	0	0	0	0
Investing Activity	-83	-47	-67	0	0	0
Issue of Equity. Option Conversion	131	71	9	0	40	0
Net Borrowings	56	-8	-50	-75	-40	0
Financing Activity	182	63	-41	-75	0	0
Net Increase in Cash	-24	6	-16	37	174	202
YE Cash on Hand	49	55	39	76	250	452

Source: BCB 2023 annual report, IIR estimates

Table 6 Balance Sheet de-leveraging over next two years

BALANCE SHEET	Jun-23	Jun-24	Jun-25	Jun-26	Jun-27	Jun-28
Cash	49	55	39	76	250	452
Receivables	37	57	65	86	101	117
Inventories	60	36	38	49	57	66
Prepaid Costs	4	4	4	4	4	4
Total Current Assets	150	153	146	215	412	639
Financial Assets	16	16	16	16	16	16
PP&E	160	174	207	206	183	124
Rehab Receivable	70	70	70	70	70	70
Expln & Mine Devt	11	16	16	16	16	16
Deferred Tax Asset	0	1	1	1	1	1
Total Non Current Assets	258	294	326	325	302	243
Total Assets	408	446	472	540	714	883
Trade Payables	146	100	86	96	109	121
Borrowings	159	154	103	28	0	0
Current Tax Liabilities	0	0	0	10	39	50
Provisions	67	74	76	79	81	112
Total Liabilities	373	329	266	213	229	283
Net Assets	35	117	205	326	484	599
Issued Capital	261	332	341	341	381	381
Reserves	5	5	5	5	5	5
Retained Profits	-231	-220	-141	-19	99	213
Shareholder Equity	35	117	205	326	484	599

Source: BCB 2023 annual report, IIR estimates

Most of the November 2023 equity raise has been used to reduce creditors and fund Ellensfield, the cash balance is forecast to rise to December 2023 and remain at that level to June 2024.

Table 7 Sales Volumes and benchmark prices

Volumes BCB share	Jun-23	Jun-24	Jun-25	Jun-26	Jun-27	Jun-28
Coal Sales (Kt)						
HCC	0	528	922	1604	2177	2335
SHCC	0	416	468	253	0	105
LVPCI	289	262	0	0	0	70
Thermal	833	844	1113	1154	1088	1088
Total	1122	2050	2502	3011	3265	3599
Benchmark Coal Prices US\$/t						
HCC	279	299	283	290	297	304
SHCC	223	239	226	232	238	243
LVPCI	259	199	212	217	223	228
SSCC	220	175	172	176	180	185
Thermal	301	145	131	134	138	141
AUDUSD	0.67	0.66	0.66	0.66	0.66	0.66

Source: IIR estimates

Table 8 Run of Mine coal processed

Volumes BCB Share	Jun-23	Jun-24	Jun-25	Jun-26	Jun-27	Jun-28
Coal Processed (ROM kt)						
Broadmeadow	1177	1098	1300	703	0	0
Burton Lenton	0	1465	2400	4095	5500	5500
Burton CHPP	1177	2563	3700	4798	5500	5500
Isaac River	0	0	0	0	0	500
Bluff	482	253	0	0	0	0
Total	1659	2815	3700	4798	5500	6000

Source: IIR estimates

#### UNDERSTANDING THE COMPANY: REDUCING RISK

#### PATHWAY TO GREATER CONFIDENCE IN MANAGEMENT

Investors generally accept that management cannot control the commodity prices nor the exchange rates, but they do expect management to deliver promised production volumes, operating costs and capital spend.

Bowen Coking Coal did not deliver Bluff to original expectations, and that mine was supposed to generate the cash that serviced the debt and paid for at least part of the Burton capex. The failure of Bluff has required Bowen to seek considerable additional support from debt and equity providers.

Debt repayment has been deferred to FY25 and FY26, buying time for the operations to generate cash flow.

To be confident on debt repayment, investors need to be satisfied that Bowen is becoming a more predictable company, and the elements where predictability is required, and management are accountable are:

- ♦ The relationship of Bowen's realised prices relative to coal price benchmarks
- ♦ The unit cost of coal production
- Production rate of individual mines
- Capital cost of additional capacity
- ♦ The sequence and timing of capacity addition

These elements will be discussed later in this report (see Table 12 onwards), but in summary,

- Over the last three quarters the market has seen Bowen's thermal coal prices track the API5 index and the PCI coal sales track the Low Volatile PCI (LVPCI) price. Broadmeadow Hard Coking Coal appears to be selling closer to the PCI price than the Hard Coking benchmark, and the December Quarter will include sales from Ellensfield South for the first time, hopefully giving clarity on its Hard Coking price.
- ♦ The company has provided longer term guidance that production will cost A\$135/t FOB of saleable product excluding royalties in real terms. The decline in costs is the result of falling overburden strip ratios and is credible. Real terms means that the A\$135/t has to be increased by and uncreased in general inflation from around November 2023.
- ♦ In terms of coal production volumes, Broadmeadow East has performed at expectation or better, and Ellensfield South appears to be ramping up in line with expectations.
- Bowen has provided significant detail on future capital expenditures broken down by mine and activity, which allows investors to understand the investment stages and cost elements of the expansion to 5.5Mtpa ROM.

#### Delivery of these elements will substantially de-risk the company

All this information provides investors with a base on which to value the company and on which to assess the performance of management, and to the extent that management deliver on time and budget, the company's credibility should increase, the business become more predictable and therefore de-risked, and this should result in an improved share price as this process unfolds, assuming flat commodity assumptions.

The coal price and AUD exchange rate are significant variables, but investors understand those risks are beyond the control of the company management. Later in this report, it is argued that the capital strike against coal globally will guarantee higher trend coal prices over the next decade or more.

#### MANAGING RISKS OF EXPANSION TO 5.5MTPA ROM

On the sequence and timing of capacity development, we believe the company has laid out a scenario to get to 5.5Mtpa ROM from around January 2025 (figure 1). We see this as achievable but will require the company go through a period of heavy capital spend which exposes it to solvency risks again if coal prices spike down.

The issue facing Bowen is whether to build a cash war chest before starting the next round of development or to spend cash flow on development as it is received, with the risk that even a short period of weak coal prices would require further capital issuance and dilution.

#### Bowen's proposed expansion schedule

Figure 1 Company view of timing of future mine developments



Source: BCB presentation 22 November 2023

#### Capex FY25 A\$132M is possible

The figure above highlights that Plumtree North will have to be developed at a cost estimated by IIR of A\$50M to sustain production as Ellensfield South winds down. On the timing in Figure 1, it will overlap with Ellensfield South to fill the processing plant to 5.5Mtpa ROM from June 2025. On this schedule, that would be spent in FY25. In total the capital spend required in FY25 to deliver this schedule totals \$147M (BCB share A\$132M) and includes:

- Broadmeadow power line move A\$23M (BCB share A\$21M)
- Completion of Processing plant module two refurbishment to allow early processing of Plumtree North. Without the extra capacity, there is no point starting Plumtree early – A\$24M (BCB A\$22M).
- Plumtree North box cut A\$50M (IIR estimate BCB share A\$45M))
- ♦ Teviot Creek boxcut A\$50M (IIR estimate BCB share A\$45M).

As Ellensfield South production ends, the Teviot Creek deposit is developed to infill until the Lenton project starts. Teviot need a water license but is otherwise approved to start development. It is part of the Burton Resource.

#### Debt repayment FY25 A\$52.5M and FY26 A\$59.4M at AUDUSD of 0.65

Combining the debt repayment and the capital spend means that over FY25 and FY26, Bowen operational cash flow would have to fund A\$123.3M including interest split evenly between the two years (Table 11) and A\$132M of capital expenditure summing to A\$255M over two years.

#### Comparing cash generating dynamics of alternative scenarios

Table 9 Cash accumulation from Base Case and No Growth scenarios at US\$280/t coking coal price

HCC = US\$280/t	Jun-24	Jun-25	Jun-26	Jun-27	Jun-28
Base Case					
NPAT A\$M	11.0	79.2	121.3	118.3	143.3
NPAT A\$/sh	0.004	0.027	0.042	0.038	0.046
Free Cash Flow A\$M	-59.9	26.3	111.7	173.8	202.1
Year End Cash A\$M	55.0	39.2	75.7	249.6	451.6
No Growth Case					
NPAT A\$M	5.6	49.5	86.7	60.7	57.7
NPAT A\$/sh	0.004	0.017	0.030	0.019	0.018
Free Cash Flow A\$M	-59.9	33.1	102.8	82.4	107.4
Year End Cash A\$M	55.0	46.0	73.6	156.0	263.4
Cumulative Improvement in Cash					
Increase A\$M	0.0	6.8	-2.1	-93.5	-188.2
Increase A\$/sh	0.000	0.002	-0.001	-0.030	-0.060

Source: IIR estimates

We have considered three scenarios (Table 10). The Base Case is the version shown in the financial tables and is our version of the expansion plan in Figure 1. The No Growth Case assumes Burton plant stays at 2.7Mtpa capacity and only Ellensfield and Plumtree North are

developed. The Accelerated Case assumes the expansion to 5.5Mtpa ROM and related mine expansions are on line early in FY25.

Table 9 shows two of those scenarios at US\$280/t Premium Low Volatile Hard Coking Coal price flat in real terms from the June 2024 quarter. The cash balance at the end of FY2025 is higher for the No Growth Case but after that the Base Case year end cash in higher. While the No Growth Case is safer initially, it becomes a missed opportunity in later years. The higher the near term coal price, the larger the cash buffer from deferral.

Table 10 Cash breakeven Coking Coal price for each year of three scenarios (Breakeven = zero change in cash after costs and debt)

BCB Share	Jun-25	Jun-26	Jun-27	Jun-28	Jun-29
No Growth Case					
Coal Sales kt	2072	2302	1613	1613	1613
Breakeven PLVHCC US\$/t	218	176	174	173	177
Base Case					
Coal Sales kt	2502	3011	3265	3265	3265
Breakeven PLVHCC US\$/t	233	198	164	159	159
<b>Accelerated Growth Case</b>					
Coal Sales kt	3062	3265	3265	3265	3265
Breakeven PLVHCC US\$/t	208	173	160	159	159

Source: IIR estimates AUDUSD is constant for all scenarios at 0.66, Thermal coal price is constant at \$130/t, cash breakeven means Revenue = operating cost + capital cost + debt and interest + tax

However, the cash generation once expansion is complete at US\$280/t and AUDUSD 0.66 is sufficient to pay back the capital cost in around a year, lower breakeven costs and higher cash flow ongoing.

Table 10 shows the three scenarios coal sales and the coking coal price required for the cash flow in each year to be zero after paying for expansion capital and all debt servicing as well as operating costs, royalties and income tax. For example, under the Base Case, Bowen needs a benchmark price of US\$233/t in FY25 and US\$164/t in FY27 to hold its cash balance stationary, and prices above those levels to grow its cash on hand.

The base case is higher cost for the first two years which is the risk zone but is lower cost from FY26 and lower cost at double the sales tonnes, so post expansion, the business is substantially more leveraged to a benchmark coking coal price above US\$159/t FOB.

There is a strong case for proceeding with the Base Case expansion plan if the company has the cash to do so. The balance sheet strengthening that comes from delaying expansion is not material at US\$280/t (Table 9).

#### The cash levels and spending rate should drive the decision to expand to 5.5Mtpa

The no growth scenario does not spend A\$74M on 100% basis or A\$67M BCB share to expand the processing plan to 5.5Mtpa ROM and build the mine capacity to fill it.

However, that capital can be spent quickly or slowly and if the company contracts in a way that allows spending to cease in the event of a downturn in price, it can start spending expansion capital while protecting its cash balance. Bowen has options now it has a solid cash flow.

Delay does not change the valuation materially. The coal is still there even if development is delayed a year or two. Beyond two years the impact of delay on valuation becomes material.

#### Debt repayment following September 2023 rescheduling

Table 11 Debt repayment schedule

	Jun-24	Sep-24	Dec-24	Mar-25	Jun-25	Sep-25	Dec-25	Mar-26
New Hope Loan A\$M								
Movement	-1.7	-1.7						-31.7
Balance	33.4	31.7	31.7	31,7	31.7	31.7	31.7	0.0
Forecast BBSY Rate	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Premium	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Interest Rate	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%
Interest Payable	-1.2	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
Taurus Loan US\$M								
Movement		-6	-9	-9	-9	-9	-9	
Balance	51	45	36	27	18	9	0	0
Interest Rate	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Interest Payable	-1.2	-1.2	-1.1	-0.9	-0.7	-0.4	-0.2	0.0
Convertible Note (Repay 2028)								
Balance	40	40	40	40	40	40	40	40
Interest Rate if paid on time	3%	3%	3%	3%	3%	3%	3%	3%
Interest Payable	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Interest Rate if capitalised	4%	4%	4%	4%	4%	4%	4%	4%
Interest Payable	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Converting price A\$/sh	0.268	0.268	0.273	0.273	0.278	0.278	0.283	0.283
Shares on Conversion M	149	149	146	146	144	144	141	141
Summary								
AUDUSD	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Total Movement A\$M	-1.7	-10.9	-13.8	-13.8	-13.8	-13.8	-13.8	-31.7
Total Interest A\$M	-2.7	-2.6	-2.4	-2.0	-1.7	-1.4	-1.0	-0.7
Total Cash Flow	-4.4	-13.6	-16.2	-15.9	-15.5	-15.2	-14.9	-32.4

Source: BCB release 29 September 2023

The payment of New Hope debt interest is shown as cash in the table above, but that cash will be generated by New Hope converting its warrants into shares for the period from 15 December 2023 to 15 September 2024, so there will be no call on operating cash flow in that period from the New Hope debt. Likewise, the Crocodile convertible note interest can also be capitalised, leaving only the Taurus interest payable. On our forecasts, Bowen has sufficient cash to pay the interest.

## RECONCILIATION OF MAJOR FORECASTING VARIABLES TO REPORTED ACTUALS

#### **Realised Prices compared to benchmarks**

So far, Bowen has reported average selling prices of thermal coal and Pulverised Coal Injection (PCI) coal when the only metallurgical coal sold was PCI from Bluff.

From previous quarters, Bluff PCI appeared to be realising close to benchmark. There will always be timing differences because the quarterly averages are based on daily pricing but Bowen was selling two to three shiploads per quarter of metallurgical coal priced on the day of sailing.

In the September quarter, the first quarter when Broadmeadow sold metallurgical coal, Bowen grouped metallurgical coal sales together, and the table below attempts to estimate the selling price of the first metallurgical coal from Broadmeadow East. Assuming Bluff PCI realised the quarterly average of US\$169/t FOB, the implied realised Hard Coking Coal price was US\$176/t, or 66% of the benchmark Premium Low Volatile Hard Coking Coal benchmark. Our modelling assumes Broadmeadow receives 70% of the Premium Low Volatile coking coal price.

The Broadmeadow Hard Coking Coal is of lower quality than Ellensfield South which is expected to sell at 80-90% of the benchmark Premium Low Volatile Hard Coking Coal. Hopefully, there will be sufficient detail in the December quarterly report for the market to see this.

Table 12 September 2023 quarter realised prices vs benchmark prices

	Total	ВМЕ	Bluff	Benchmark Price US\$/t	Realised Price US\$/t	Revenue US\$M	Realised/ Benchmark
Hard Coking Coal	182.3	182.3		266	176	32.0	66%
PCI	118.4		118.4	169	169	20.0	100%
Metallurgical	300.7	182.3	118.4		173	52.0	
Thermal API5	254.1	254.1		88	84	21.3	95%

Source: BCB September 2023 quarterly report, Yancoal September quarterly for benchmark prices

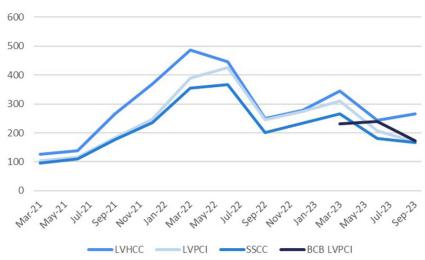
The table below shows recent historical prices for Premium Low Volatile Hard Coking Coal (LVHCC) and Low Volatile PCI (LVPCI) Free On Board (FOB) Queensland ports, and Semi-Soft Coking Coal (SSCC) and the benchmark prices for 6000kCal/kg thermal coal (NEWC) and 5500kCal/kg thermal coal (API5) Free ON Board (FOB) Newcastle Australia. It also shows the prices realised by Bowen.

Table 13 Historical benchmark prices for key coal types and Bowen announced realised prices

US\$/t		Coking		Ther	mal	Bowen	Bowen
	LVHCC	LVPCI	SSCC	NEWC	API5	LVPCI	Thermal
Mar-21	127	103	95	88	55		
Jun-21	138	116	109	108	62		
Sep-21	266	182	176	166	96		
Dec-21	369	248	235	186	117		
Mar-22	486	389	354	264	172		
Jun-22	446	426	367	372	194		
Sep-22	250	246	200	421	195		
Dec-22	278	273	234	381	141		
Mar-23	344	311	266	242	125	232	183
Jun-23	243	207	181	158	102	240	107
Sep-23	266	169	167	149	88	173	84
Dec-23	330	198			110		

Source: LVHCC from Coronado (ASX:CRN) quarterly reports, LVPCI, SSC, API5 from Yancoal (ASX:YAL) quarterly reports; NEWC from Whitehaven (ASX:WHC) quarterly reports;; Bowen prices from BCB quarterly reports

Figure 2 Coking coal benchmark prices vs Bowen realised PCI prices



Source: Same as Table 13

450
400
350
350
250
200
150
100
50
0

Marxi Marx

Figure 3 Thermal benchmark prices vs Bowen realised thermal coal prices

Source: Same as Table 13

Before the Burton processing plant started operating in the June 2023 quarter, Broadmeadow was selling unwashed bypass coal as thermal coal.

BCB Thermal

API5 -

#### Long Term Operating Costs Guidance to A\$135/t appears credible

The table below takes the historical and guidance volumes supplied in Figure 4 below and combines this data with constant unit cost data by major cost centre (ie mining, processing, haulage, rail, and port). The aim of the table is to reproduce the September 2023 actual reported operating cost in A\$M and show how the long term target of A\$135/t FOB is achieved.

As the table shows, by applying constant mining, processing and logistics costs to the guidance volumes, Table 14 generates the following:

- ♦ The reported cash costs in the September 2023 guarter
- ♦ FY24 average unit cost of A\$155/t FOB vs guidance of A\$155-175/t FOB and A\$322.6M cash cost vs guidance of A\$310-297M. (Table 14 last line last two columns). The table's estimates should be at the low end of the cost range because its assumed volumes are slightly above the annual guidance range consistent with the quarterly guidance in Figure 4.
- ♦ The unit cost falls to A\$135/t at a stripping ratio of 7:1 in the December 2024 quarter, which is consistent with the long term guidance of A\$135-145/t in Figure 4. The higher figure would be at a lower output rate.

Note the impact of the capitalised mining costs in the September 2023 quarter (reported actuals) and in the December 2023 quarter (reported guidance). In Figure 4, a comment says that 60% of the A\$70-80M FY24 capex is the Ellensfield box cut (ie pre-stripping) which amounts to A\$42-48M and all this is spent in the first half of FY24 ie by December 2023.

The table below is a summary of the company guidance interpreted with the help of constant unit operating costs. The guidance is in real terms, meaning it does not include the impact of any inflation from the date of the forecast. For comparison, the BCB share of costs of production from Table 1 is included at the bottom of the Table 14 showing the IIR forecasts assume higher operating costs and this is because it includes the impact of ongoing inflation.

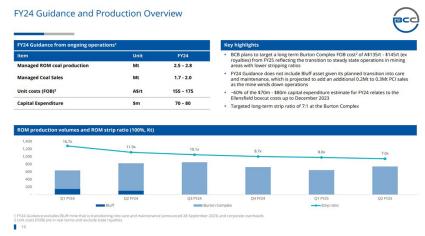
Bluff is missing from this guidance and the company has not commented on its cash flow. Bluff cost are actuals for September and IIR estimates for the December 2023 and March 2024 quarters. At 30 June 2023, the asset was written off and a provision of A\$16.454M was provided for "Onerous Contracts" This is likely to be close to the cash loss from the operation at the coal prices expected at the time the accounts were signed off. Given coal prices have been rising since then, Bluff is likely to generate an accounting profit in FY24.

Table 14 A\$135/t cash operating cost is deliverable based on the falling strip ratio

100% of Operations	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	FY24	High	Low
Waste kBCM	10651	9996	8585	6525	5600	5250	35757		
Burton	7372	9996	8585	6525	5600	5250	32478		
Bluff	3279	0					3279		
Stripping Ratio	16.6	11.9	10.1	8.7	8.0	7.0	11.6		
<b>ROM Coal Production kt</b>	640	840	850	750	700	750	3080		
Burton	488	750	850	750	700	750	2838	2800	2500
Bluff	153	90	0	0	0	0	243		
Own Coal Sold kt	561	590	595	525	490	525	2140		
Burton	436	530	595	525	490	525	2086	2000	1700
Bluff	125	60	0	0	0	0	186		
Unit Costs (Burton Only)									
Waste A\$/BCM	6	6	6	6	6	6	6		
Coal A\$/t ROM	6	6	6	6	6	6	6		
Haulage on lease A\$/t ROM	20	16	14	10	10	10	10		
Site Overheads A\$/t ROM	8	6	6	6	6	6	6		
Processing A\$/t ROM	18	14	14	14	14	14	14		
Rail Port Marketing A\$/t Sold	24	24	24	24	24	24	24		
Total A\$/t Sold FOB	151	147	168	150	144	135	155	155	175
Costs A\$M (Burton Only)									
Waste	44.2	60.0	51.5	39.2	33.6	31.5	214.5		
Less Capitalised (\$42M total)	-15.4	-26.6						-48	-42
Waste Net	28.8	33.4	51.5	39.2	33.6	31.5	152.9		
Coal Mining	2.9	4.5	5.1	4.5	4.2	4.5	17.0		
Haul on lease	9.8	12.0	11.9	7.5	7.0	7.5	41.2		
Site Overheads	5.1	5.0	5.1	4.5	4.2	4.5	19.8		
Processing	8.8	10.5	11.9	10.5	9.8	10.5	41.7		
Rail Port Marketing	10.5	12.7	14.3	12.6	11.8	12.6	50.1		
Total	65.9	78.1	99.8	78.8	70.6	71.1	322.6	310.0	297.5
Bluff Cost of Production A\$M	44.1	18.7	1.1						
Burton + Bluff Costs A\$M	110.0	96.8	100.9	78.8	70.6	71.1	386.4		
BCB Share of Costs A\$M	110.0	96.8	90.9	70.9	63.5	64.0	368.5		
From Table 1									
Cost of Prodn A\$M	86.0	96.2	87.6	72.6	67.9	73.2	342.5		
Accruals Paid A\$M	25.0	36.2	0.0	0.0	0.0	0.0	61.2		
BCB Share of Costs A\$M	111.0	132.4	87.6	72.6	67.9	73.2	403.7		

Source: Figure 4, IIR unit cost estimates based on reported quarterly actuals (Actual Burton costs from September 2023 quarterly A\$158.24/t x 420.1kt = A\$66.47M vs the Sep 23 Total of A\$65.9M). Cash Cost of Production for September 23 quarter reported in 5B was 1.2c Cost of Production \$121.1M less 1.8 GST \$11.8M = \$109.8M

Figure 4 Latest guidance



Source: BCB presentation 3 November 2023

#### **FUNDAMENTALS OF INVESTING IN A COAL PRODUCER**

#### Bowen is a coking coal producer.

As an investment, Bowen is a coking coal producer, with 70% of its revenue coming from steelmaking coal longer term.

#### Switching to green technology will require an above average steel consumption.

- Resetting the world manufacturing base to one that produces net zero carbon emissions will require a massive investment in plant and equipment, from wind turbines to hydrogen from water hydrolyzers to ammonia plants to provide fuel for shipping, and all this will need steel, so we expect the growth in steel demand will be faster than real global GDP over the next 20 years as a result.
- Blast furnace steel produced using coal will still be operating in 2050 according to the International Energy Agency, but with carbon capture, and those furnaces will need coking coal supplies. Australia is likely to remain a globally competitive coal supplier and will have a role to play over that period.

#### Hydrogen reduction of iron ore into steel is decades away if ever

- Scrap cannot provide enough steel to support current demand, so ongoing production of steel from iron ore is essential. Iron ore is iron oxide, and a reductant is required to remove the oxygen from iron to make steel. The two candidates are carbon (coking coal) and hydrogen.
- For those who believe coking coal will be replaced by hydrogen in the steel making process, they should consider the comment from the Gold Hydrogen prospectus that indicated that hydrogen is toxic to the performance of steel. The notion that hydrogen can replace carbon particularly for steel used in thin sheet applications like vehicles has not been demonstrated yet, and the toxicity of hydrogen may mean that carbon will never be replaced in the steel making process.
- Comment from Gold Hydrogen Expert Report (GHY 11 January 2023). "Hydrogen is unique in that it is the smallest molecule and thus is able to interact with metals and weaken them via a process of embrittlement. Hydrogen embrittlement occurs when metals become brittle as a result of the introduction and diffusion of hydrogen into the material. With the world-wide focus on using hydrogen as an alternative to fossil fuels, there is significant effort being made to address these safety issues generally. For the nature of the projects considered here (ie transporting hydrogen in steel pipelines under pressure), the issues will need to be solved for the casing and production tubing and other downhole equipment, the surface equipment, compressors, processing facilities and pipelines etc."

#### Coal industry is being deprived of capital which will ensure under-supply

- In a world where the mining majors are largely exiting the coal industry, and where larger companies are shedding smaller operations or those approaching end of life, Bowen is one of the few entities acquiring these assets and is doing so at low acquisition and start-up costs.
- The supply of capital to build large new coal mines and expensive long-term infrastructure has been reduced by the rise of green credentialled investment funds, but also by an increasing number of general funds that must defend their ESG credentials to their trustees and members. This means a restriction on the availability of debt and equity capital, and a reluctance by the larger, cashed up mining companies to participate in the sector.
- While there will always be sources of capital prepared to invest in the coal industry, the pool of available funds is significantly less than has been the case historically. That lack of capital means that if the coal market does need new supply, either because demand (ie steel or energy) continues to grow, or supply contracts as old mines close, then the new capacity is likely to be added more slowly than in the past, meaning the opportunity of above trend prices and earnings from time to time is highly likely.
- ♦ The barriers to commencing coal production are regulatory as well as financial, but Queensland is still approving new mines (Isaac River was approved on 1 June 2023)
- There are no restrictions on production arising from infrastructure, or lack thereof. During the commodity boom of the 2002-2010 period, infrastructure was major the constraint to coal project development, and considerable additional port and rail capacity was installed, funded by take or pay contracts signed by miners. A number of those miners have not built their intended projects, or are now producing at less than intended rates, but are still

- paying for the unused rail and port capacity. It would be a benefit to those miners if Bowen started production and shouldered some of that take or pay obligation.
- As a commodity, coal is very hard to store, because it is very bulky for its value, and it chemically deteriorates over time. That means the coal supply chain inventories are generally the minimum required to allow the supply chain to function, and any volatility in demand or supply can cause considerable stress in the supply chain. In a world of annually or quarterly contracted prices, this stress can be smoothed out, but in a spot market, very significant price volatility can result. Structurally, the lack of supply investment, combined with continuing demand for steel, is likely to bias the volatile price movements to the upside over the medium term, particularly if there is any delay in implementing the strategies proposed by the International Energy Agency (IEA).

#### IEA Pathway to Net Zero by 2050 is summarised in Appendix 2

The core conclusion of this comprehensive study is that coke consuming steel making plants will add carbon capture in preference to closure. The report is silent on the hydrogen embrittlement issue but does confirm that alternative steelmaking technologies are a long way off replacing coal.

#### **COMMODITY REVIEW**

Coal prices have been rising since September with Premium Low Volatile Hard Coking Coal being in particularly short supply. Further increases are likely over the next three months if the forecast wet weather hits the Australian East Coast.

Metallurgical and thermal prices appear to be seasonal with stronger prices in October to March and weaker from April to September. On the supply side, shipments are reduced from October to March due to rain related supply shocks slowing Australian exports during the Southern Hemisphere wet season and Russian exports from Vladivostok slowed by the winter freeze. On the demand side, Indian demand slowdown in the September quarter due to the bunching of holidays in the festival period and European demand slows during the August holiday period.

Longer term outlook is for a supply shortage with India being the strongest growth region and Australia being the natural supplier, but unable to meet demand due to underinvestment. The underinvestment is due to the capital strike by major mining companies and banks under pressure to be seen as environmentally responsible. This structural shortage is likely to result in higher highs and higher lows going forward.

#### Short term outlook is positive for Metallurgical coal and neutral for thermal coal

Here are the quarterly commentaries from three Australian listed coal companies September 2023 quarterly activities reports:

#### Stanmore Coal (ASX:SMR)

"The metallurgical coal market has seen mixed supply conditions through the quarter. With generally favourable weather conditions, Queensland operations have recovered to a position of stable supply for most grades. Notably though, a combination of extensive maintenance programs as well as production issues at large Queensland prime hard coking coal mines has resulted in a very constrained availability for this grade.

"The resulting price environment for premium hard coking coal through the quarter has been an increase from US\$233/t at the outset of the period, up to US\$333/t at the end of September with further transactions pushing the market above this level in October.

"Availability for non-premium grades of metallurgical coal has not been as tight as prime hard coking coal, and Russian competition for a number of non-prime grades has impacted prices for these grades, although the market has further segmented with differentially higher pricing for FOB Australian benchmark quality PCI material compared to Russian material.

"PCI relativity declined to 60% of prime Premium Low Volatile Hard Coking Coal at the close of the quarter, compared to the average relativity of 64% through the quarter.

"While steel market demand remains subdued for the Eurozone and the USA, feedback from Indian steel producers remains that demand is very strong and expected to continue so for the forthcoming period, underpinning seaborne demand for metallurgical coal.

"The introduction of duties for coal exports from Russia has also impacted price expectations for material from this origin, and the upcoming winter period traditionally impacts availability from Far Eastern ports."

#### Yancoal (ASX:YAL)

"The start of coal stockpile accumulation ahead of winter across Asia and Europe, disruptions in the Chinese domestic market related to safety incidents in China's Guizhou province, increase in demand from India following a drier monsoon period with lower Indian hydro generation and South Korea reducing imports of Russian coal all appear to contribute to the stronger market sentiment.

"In the global energy markets, excess gas supply evident in the prior quarter dissipated as demand increased; this removed one of the factors putting downward pressure on thermal coal indices.

"On the supply side, Australian supply remains robust with favourable weather conditions whilst logistical constraints are starting to slow down Russian exports to the Far East. A drier than normal rainy season has seen Indonesian miners maintain production at elevated levels.

"Overall, supply and demand in the thermal coal markets appear balanced. The market response to seasonal factors and temporary disruptions indicates there is no structural shortfall or oversupply."

#### Tigers Realm (ASX:TIG)

Tigers Realm is an Australian listed coal producer whose assets are in Russia, so is well placed to provide a perspective on the impact or lack thereof of sanctions on Russian coal exports.

"Chinese coking coal market prices picked up in the third quarter of this year, from lows in May and June. Prices gradually recovered from around US\$240/t CFR China in early July to US\$280/t by the end of September. Currently, an ongoing shortage of Chinese domestic prime low-volatile (PLV) hard coking coal has supported seaborne market at around US\$280/t. China's leading coke producer raised prices as a response to mounting cost pressures due to tighter supply conditions in the met coal sector.

"Hard coking coal prices in other markets are higher, with Australian PLV selling at US\$367/t FOB as at 11 October. This has been driven in part by strong demand in India, post monsoon.

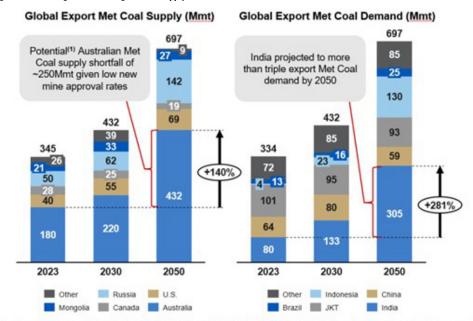
"The thermal coal market also improved during the quarter, with CFR South China 5500 kcal NAR prices starting July at \$90/t and finishing the quarter at around \$110/t. This rally started with high temperatures recorded in China then further sustained by coal mine accidents and safety inspections in all coal mining regions of China which tightened the supply / demand balance.

"Outside of China, Indian post-monsoon demand has been strong, which coupled with South African supply issues and Indonesian RKAB quota issues, has driven prices for mid CV (5500 kcal NAR) coal higher.

"Most East Russian coal continues to be sold in China but is also selling into Vietnam and SE Asia. We remain subject to strong Russian competition in our available markets but are currently enjoying higher prices for late season sales of our semi-hard and thermal products."

#### LONGTERM METALLURGICAL COAL OUTLOOK IN SHORT SUPPLY

Figure 5 Seaborne global metallurgical coal supply and demand to 2050



Note: Forecast data sourced from AME Metallurgical Coal Strategic Market Study 2023 Q2; Mmt = Million metric tonnes. Rounding has been applied. (1) Coronado calculation based on publicly available information regarding Australian mine producing capacity.

Source: Coronado (ASX:CRN) release 27 October 2023

The longer term commentary comes from ASX listed Coronado which has coking coal mines in Australia and the USA and is sourced from commodity consultants AME:

"India export Metallurgical Coal demand is forecast to increase by 281% by 2050, the majority of which will need to be filled by supply growth from Australia. However, it is Coronado's view, that it will be difficult to see how this supply growth will materialize to match demand, given the limited approvals for new mines in the high-quality Met coal regions of Australia and North America.

"To meet projected 2050 demand levels, AME forecast that Met Coal production from Australia will need to increase by 140% from existing levels over that time. Structurally, a lack of supply should ensure higher prices for longer."

#### PRICE HISTORY AND OUTLOOK USED FOR FINANCIAL MODELLING

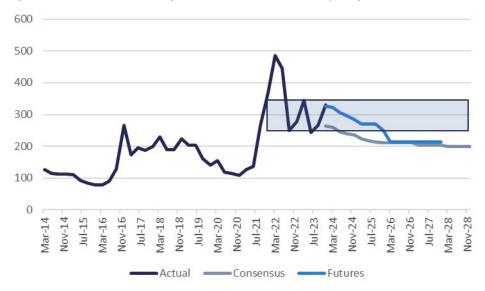
Recent price history for a wide varieties of coal is detailed in Table 13 above. The longer term price histories are graphed in the figures below.

Based on the commentary from the selected coal companies September quarterlies, Premium Low Volatile Hard Coking Coal will average at least US\$330/t in the December 2023 quarter and probably the same in the March 2024 quarter.

After that, normal seasonality points to lower prices in the middle of 2024 and we are guided by the 30 November 2023 futures curve which is forecasting US\$269/t to December 2025. We have used a flat US\$280/t from the June 2024 quarter escalating at 2.5%. We believe the price will trade in a range of A\$260/t to A\$360/t with the average price likely to be US\$310/t, so US\$280/t is conservative.

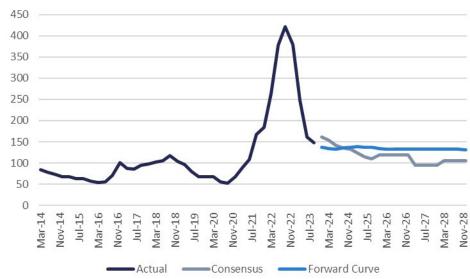
For thermal coal, the Benchmark is the NEWC index shown in Figure 7 below. The 30 November 2023 forward curve is very flat at US\$138/t to US\$131/t so we have assumed US\$130/t escalating at 2.5%pa.

Figure 6 Premium Low Volatile Hard Coking Coal US\$/t FOB Queensland. Prices likely to range trade



Source: St Louis Federal Reserve, Coronado quarterlies, Consensus Economics, Barchart

Figure 7 Thermal Coal price US\$/t FOB Australia for 6000kCal/kg NEWC specification



Sources: Whitehaven and Yancoal quarterlies, Consensus Economics, Barchart

#### **PROJECTS**

- ♦ Bowen has a large portfolio of projects in likely order of commencement of production:
  - Broadmeadow East 90% once formal sale to Formosa completed
  - Bluff 100%
  - Burton Downs/Lenton 90%
  - Isaac River 100%
  - Hillalong 80% (with Sumitomo)
  - Cooroorah 100%
  - Comet Ridge 100%
  - Lilivale 15% (with Stanmore Coal)
  - McKenzie 5% (With Stanmore Coal)

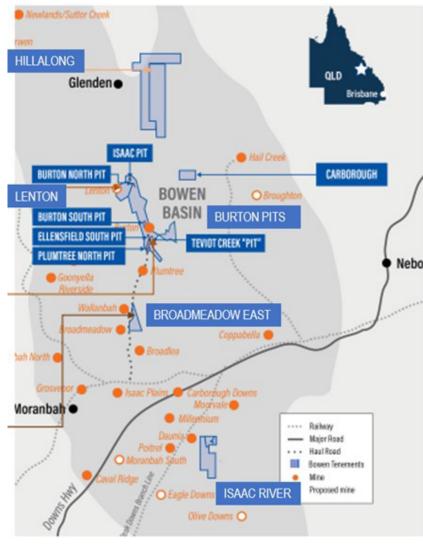


Figure 8 Bowen tenement portfolio (Since this figure was published

Source: BCB presentation 2 November 2023

#### **RESOURCES AND RESERVES**

- Burton, Lenton, Broadmeadow East, and Hillalong have been grouped together because they are feed sources for the Burton Coal Handling and Processing Plant and will use the related infrastructure as a channel to market.
- The other projects will seek to negotiate processing deals with existing Coal Handling and Preparation Plants. Bowen had an arrangement with Fitzroy's Carborough Downs CHPP for 1Mtpa subject to available capacity. Broadmeadow ended up using the train loading capacity to ship unwashed thermal coal, until the Burton plant was back in operation. A representative of Fitzroy's owner is expected to join the Bowen board as a result of participation in the recent share placement, so this arrangement is likely to be available for Isaac River if required.
- Bluff was being processed at Cook Colliery, but that arrangement will terminate in January 2024 with the final Bluff sales.

Table 15 Resources and Reserves Summary – At 30 June 2023 for producing assets

Resources		Pro	ject		Bowen Share
Mine	Measured	Indicated	Inferred	Total	Total
Burton	36.0	18.0	11.0	64.0	57.6
Lenton	60.0	50.0	30.0	140.0	126.0
Subtotal	96.0	68.0	41.0	204.0	183.6
Broadmeadow East	6.5	4.1	23.0	33.6	33.6
Hillalong		56.3	50.3	106.6	85.3
Total (Burton CHPP)	102.5	128.4	114.3	344.2	302.5
Bluff	0.0	11.2	2.3	13.5	13.5
Isaac River	5.8	2.5	0.4	8.7	8.7
Cooroorah		96.0	81.0	177.0	177.0
Comet Ridge	7.5	9.3	43.0	59.8	59.8
Lilyvale			33.0	33.0	5.0
Total All Projects	115.8	247.4	274.0	636.2	566.4
Reserves	Proven	Probable		Total	Total
Burton	13.6	2.4		16.0	14.4
Lenton	13.0	5.8		18.8	16.9
Total	26.6	8.2		34.8	31.3
Broadmeadow East	2.6	0.5		3.1	2.8
Total	29.2	8.7		37.9	34.1
Marketable/Mine Plan	Proven	Probable		Total	Total
Burton	7.0	1.0		8.0	7.2
Lenton	9.0	2.0		11.0	9.9
Broadmeadow East	1.9	0.3		2.2	2.0
Isaac River				2.7	2.7
Bluff					
Total				23.9	21.7

Source: BCB releases: All Resources and Burton and Broadmeadow East Reserves from 2023 annual report, Isaac River 28 July 2021, Cooroorah on 12 February 2019, Comet Ridge and Lilyvale from Prospectus issued on 3 August 2017, Bluff on 26 October 2021, Hillalong 9 August 2023, Lenton 1 November 2023.

#### **Coal product specifications**

**Table 16 Coal product specification** 

	Broadmeadow		Isaac R.	Burton	Bluff	Hillalong	Cooroorah
	Low Yield	High Yield		Lenton		Hynds	
Coal Product	нсс	нсс	HCC	HCC	LVPCI	нсс	нсс
Ash	7.5%	9.2%	9.2%	7.8-9.0%	10.0%	8.5%	3.5%
CSN	7.50	4.50	4.50	5-7.5		7.5	8-9
Fluidity ddpm	50	35	35	20-300		361	
RV max	1.13	1.13	1.13	1.1-1.22		0.99	1.56
Volatile Matter	24.2%	23.1%	23.1%	22-25%		28.8%	18.8%
Fixed Carbon				64.5-67.5%			76.5%
Total Sulphur				0.37-0.42%		0.4%	0.4%
Phosphorus	0.1%	0.1%	0.1%	0.0%		0.0%	0.0%
Energy kcal/kg adb							
Yield	37.0%	58.0%	58.0%	30-36%		66.0%	40-45%
Coal Product	Thermal	Thermal	Thermal	Thermal	LVPCI	Thermal	PCI
Ash	16.6%	17.5%	17.5%	15.5-17.5%	10.0%	16.5%	10.0%
Volatile Matter	21.2%	21.2%	21.2%	18.5-22.5%	13.5%	24.3%	17.1%
Fixed Carbon				59.8-62.3%	75.0%		71.5%
Total Sulphur	0.4%	0.4%	0.4%	0.38-0.4%	0.7%	0.3%	0.4%
Energy kcal/kg adb	6703	6596	6596	6175-6210	7800	6730	7560
Ash Fusion Temp °C	1358	1362	1362				
Yield	40%	28%	28%	17-46%	83%	21%	45-50%

Source: BCB releases. HCC= Hard Coking Coal

Our modelling assumes:

- Premium Low Volatile Hard Coking Coal price is discounted for sales from Burton/Lenton, Isaac River and Hillalong by 20%, and for Broadmeadow by 30%.
- Selling prices for Thermal Coal are at the Newcastle API5 Index (5500kCal/kg), which trades at 60% of the Newcastle NEWC index (6000kCal/kg).
- PCI is priced at benchmark, which we assume to be around 70% of the Premium Low Volatile Hard Coking Coal price.

#### **Required development approvals**

Broadmeadow East, Burton/Ellensfield, Bluff, and Isaac River are fully approved, and the first three are in production. Additional approvals are required for:

- ♦ Burton/Plumtree
- ♦ Burton/Teviot Creek (Approved apart from water licence to cross the creek)
- ♦ Lenton fully approved except for EPBC approval, which is a Federal approval, related mainly to water and matters of environmental significance.

Table 17 Summary of near to production assets

Project	Burton	Lenton	Broadmeadow	Isaac River	Bluff	Hillalong
Bowen Interest	90.0%	90.0%	90.0%	100.0%	100.0%	85% to 80%
Other Owners	Formosa Plastic	Formosa Plastic	Formosa Plastic			Sumitomo earning 20%
Obligations	Royalty on BCB's 90% share of A\$0.55/t capped at \$16M, A\$1.65/t in each quarter where HCC over US\$160/t capped at \$24M, and A\$3.30/t for prices over US\$190/t capped at A\$30M.		Land compensation A\$0.5M, Royalty A\$1/t capped at A\$1.5M	Land Compensation, haul road maintenance	Royalty A\$2/t <u\$120 cap<br="" t="">at A\$10, A\$5/t &gt;U\$\$150, A\$10/t &gt;U\$200/t</u\$120>	1.5% revenue royalty + A\$1M on granted mining lease to Rio Tinto Exploration
Location	120Km WSW of MacKay Old. Ellensfield South (ES) Plum Tree (PN) & Isaac deposits 5-7Km south of Burton Plant	120Km WSW of MacKay Qld. 7-8Km west of Burton Wash Plant	25Km NE of Moranbah and 20Km south of Burton Wash Plant, and adjacent to Broadlea and Broadmeadow West Pits	27Km east of Moranbah and south of the Goonyella tail corridor, making access to Burton Wash Plant impractical	20Km east of the town of Blackwater and south of the Goonyella rail corridor, making access to Burton Wash Plant impractical	5km east of Glenden
Tenements	ML 70109, 70260	ML 70337, ML700053, ML700054,	ML 70257	MDL 444, EPC830	ML 80194	EPC 1824, EPC 2141
Seams	Leichardt and Vermont	Burton Rider, Leichardt and Vermont	Leichardt	Leichardt and Vermont	Pollux	Elphinstone and Hynds
Coking Yield 9.8% ash	39%	30%	40-45% at CSN 4	49%		
Low Volatile PCI 10.5% ash				32%	84%	
Thermal Yield 14% ash	26%	45%	20% with 29ML/kg			
Thermal Coal Energy kcal/kg	6175-6210	6175-6210	6600-6700	6600		
Coal Processing	Burton Coal Handling Plant 5.5Mtpa ROM capacity	Burton Coal Handling Plant 5.5Mtpa ROM capacity	Tolling at Isaac Plains or Carborough Downs initially, then Burton	Carborough Downs Wash Plant	Cook Colliery Wash Plant	Potentially Burton Plant
Loadout	Trucked 36Km on haul road to Mallawa Loadout	Trucked 36Km on haul road to Mallawa Loadout	Trucked 36Km on haul road to Mallawa Loadout	Carborough Downs	Cook Colliery	Trucked 36Km on haul road to Mallawa Loadout
Rail Corridor	Goonyella Line 150Km	Goonyella Line 150Km	Goonyella Line 150Km	Goonyella Line 150Km	Blackwater Line 260Km	Goonyella Line 150Km
Port	Dalrymple Bay	Dalrymple Bay	Dalrymple Bay	Dalrymple Bay	Gladstone	Dalrymple Bay
Products	Hard Coking Coal selling at 17% discount to benchmark,	Hard Coking Coal selling at 20% discount to benchmark,				
Status						
Mine Type	Open Pit	Open Pit	Open Pit	Open Pit	Open Pit	Open Pit
As at:	30 June 2023	2-Aug-21	24-Jun-20	23-Aug-19	29 Oct 2021	1 Nov 2023
Resource Mt	64	140	33	8.7	13.5	106.6
Reserve OC Mt	16	19		4.5	na	
Strip Ratio BCM:t	10-12 years 6.7	9-11 years 7.5	5-7 years 7.0	4-5 years 8.6	5 years 12.8	
ROM Mtpa	2.4-2.7	1.8	0.8-1.2	0.4-0.6	na	
Yield	64%	76%	69%	81%	84%	
Product Mtpa	1.1	1.4	0.55-0.83	0.32-0.6	0.9	
OpEx A\$/t FOB	100	-114	100-110	113-122	120-137	
Capex A\$M	39	.05	6-8	14-17	7.8	

 $Source: BCB\ releases\ Note\ Ellens field\ South\ and\ Plum\ Tree\ North\ are\ part\ of\ Burton\ in\ this\ table.\ All\ data\ is\ 100\%\ of\ project.$ 

#### **BROADMEADOW EAST OPERATION**

#### **Summary**

 Broadmeadow East started production in July 2022. It has produced at a peak rate of 2mtpa ROM with three mining fleets in operation. Current guidance is for production of 0.8-1.2Mtpa ROM..

#### Location

Broadmeadow East is covered by ML 70257 and is located about 25km northeast of the township of Moranbah, within the Central Bowen Basin in Queensland. It is around 15km by existing haul road north of the Carborough Downs Coal Handling and Processing Plant, where its production will go initially, and around 20km south of Bowen's Burton Coal Handling and Processing Plant, which will be the longer term processing solution. Coal from Burton is trucked 36km south past Broadmeadow East to the Burton rail loop marked in Fig 12.

#### **Acquisition detail**

- Cash consideration of A\$1M paid 30 September 2020;
- Royalty payable of \$1/t on all coal produced and sold from ML 70257, to a maximum of 1.5Mt, ie A\$1.5M;
- Assumption of environmental rehabilitation obligations; and
- \$500,000 cash consideration for land access compensation, payable only upon site works commencing or the renewal of the ML, whichever occurs first.
- As part of the original transaction, the Company had secured access to the New Lenton Joint Venture CHPP and associated Train Load Out. Bowen now own those assets. This has been augmented by a Heads of Agreement with Fitzroy to use 1 Mtpa of Carborough Downs processing and loadout capacity, subject to the formal completion of that agreement.

#### Fitzroy infrastructure agreement (1 September 2021)

#### **Conditions Precedent:**

- Bowen completes the acquisition of New Hope's stake in the New Lenton Joint Venture
- The Parties obtain approval from the New Lenton Joint Venture
- ♦ The parties entering into formal transaction documents, including tolling and access agreements

#### Fitzroy will provide Bowen:

- ♦ Access to its infrastructure at the neighbouring Broadlea Mine
- Access to the Broadlea haul road and Broadlea bridge to cross the Goonyella rail line
- ♦ Short term access to the Carborough Downs CHPP of between 0.75Mt and 1Mt in 2022, including Port and Rail Access and CHPP Services
- Subject to availability, a first right to a further 1Mtpa access to CHPP services from 2023 onwards
- ♦ The permanent transfer of 1Mtpa Port capacity at DBCT.
- ♦ Access to an area abutting the open pit of the Broadmeadow East project which could potentially provide an extension to the Broadmeadow East open pit, subject to a royalty.

#### Bowen will provide to Fitzroy:

- Access of up to 1Mtpa on the Mallawa Haul Road
- ♦ Access to surplus capacity at the Kerlong accommodation village, Burton office and storage area
- Subject to availability, access to water from the Teviot dam or water stored in old voids
- Access to telecommunication infrastructure
- ♦ A right to mine under the Mallawa Haul Road without causing any subsidence. Bowen will be remunerated with a royalty for every tonne mined from that area to match the royalty agreement on the Broadmeadow East extension.

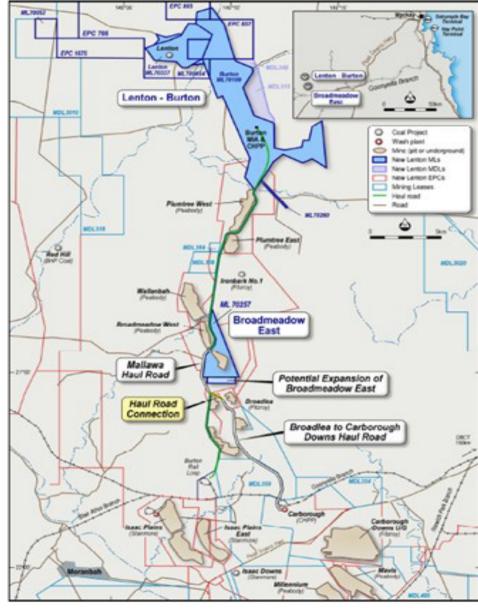


Figure 9 Broadmeadow East and connecting haul roads to Burton and Carborough Downs infrastructure

Source: BCB release 1 September 2021

#### Geology

- ◆ The Project area lies within the Permo-Triassic Bowen Basin. Coal seams occur within the Rangal Coal Measures and underlying Fort Cooper Coal Measures which are Late Permian in age.
- At Broadmeadow East, the only economic seams occur in the Rangal Coal Measures which overlie the Fort Cooper Coal Measures. The Rangal Coal Measures are approximately 90m thick and contain five seams in descending order: the Burton Rider seam, the Leichhardt seam, the Upper Vermont seam, the Middle Vermont seam and the Lower Vermont seam. Only the Leichhardt seam is currently determined to be commercially viable in the Broadmeadow East area. The seams all crop in an elongated strip, broadly striking north northwest
- ♦ The coal resources of the Project are found within the Leichhardt seam of the Rangal Coal Measures ("RCM"). The seam subcrops in the central part of the Mining Lease and generally dips at 8-10 degrees to the east. It is very consistent in thickness (3.5m to 4.2m) with limited structural features. Base of weathering is generally between 13m and 21m with some areas as shallow as 10m, which typically favours low strip ratio, open cut mining.

Table 18 Broadmeadow East Resources at 30 June 2023

Depth	Seam	Measured	Indicated	Inferred	Total
<100m	Leichardt	6.4	1.9	3.0	11.3
>100m	Leichardt	0.1	2.2	20.0	22.3
	Total	6.5	4.1	23.0	33.6

Source: BCB 2023 annual report

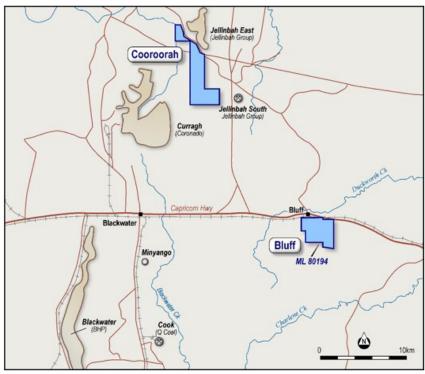
#### **BLUFF**

#### **Summary**

Bluff will move to care and maintenance status in the December 2023 quarter with final sales likely in January 2024. The mine can be restarted quickly at the sufficiently high PCI coal prices, but there is little visibility of what Reserves, mine production rates and operating costs are likely to be.

#### Location

Figure 10 Bluff location in central Queensland



Source: BCB presentation on acquisition of option to purchase Bluff 26 October 2021

♦ Bluff is located 20Km east of the town of Blackwater, on the existing rail line 260Km to the Port of Gladstone.

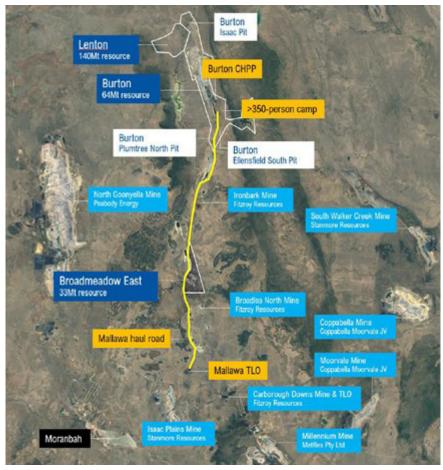
#### **Acquisition detail**

- On 23 May 2021. Bowen was chosen as the Preferred Bidder for the Bluff asset and entered into a term sheet with Carabella Resources Pty Ltd (receivers and managers appointed/ Controller appointed/In liquidation) pursuant to which it has paid a \$250,000 deposit.
- On 26 October 2021, Bowen announced that it had acquired an option to purchase Bluff for A\$5M, less the deposit of \$0.25M. Bowen exercised the option in early November 2021, paying the A\$4.75M by issuing 27.9M Bowen shares.
- As part of the acquisition, Bowen must pay a royalty which varies with the coking coal price:
  - A\$2/t on all sales if the Premium Hard Coking Coal price is greater than US\$120/t capped at A\$10M, plus
  - A\$5/t on all coal sales if the Premium Hard Coking Coal price is greater than US\$150/t, plus
  - A\$10/t on all coal sales if the Premium Hard Coking Coal price is greater than US\$200/t

#### **BURTON MINE AND LENTON PROJECT**

#### Location

Figure 11 Burton/Lenton tenements showing asset locations and neighbouring operations



Source: BCB presentation 16 June 2023

#### **Summary**

The Burton Coal Handling and Preparation Plant (CHPP) comprises two modules with a combined capacity of 5.5Mtpa, with a replacement value of A\$300M. This plant and related train loading infrastructure will form the core production assets for Bowen in the short to medium term, providing infrastructure and channel to market for coal from Burton, Lenton, Broadmeadow East, Hillalong and possibly Carborough.

The initial capital to restart mining operations from one of the two CHPP modules was A\$39.0M which has been spent, with the cost of refurbishing the second module of A\$18M plus additional security deposits and infrastructure of A\$9.5M totalling A\$27.5M for a complete restart (BCB release 4 August 2021 p6). Some of this has been spent leaving A\$24M to go.

The Coal Handling & Preparation Plant is located approximately 20km north of Broadmeadow East. The Train Load Out is 36Km by truck south of the CHPP, and links into the Goonyella to Hay Point railway line, about 200 km by rail from the Dalrymple Bay Coal Terminal.

Both the Burton CHPP and Train Load Out are owned by the New Lenton Joint Venture (Previously New Hope Corporation Ltd, now Bowen 90% & Formosa Plastics Corporation 10%). These assets were acquired from Peabody along with adjoining mining leases and associated infrastructure as part of the proposed development of their New Lenton Project.

Peabody retains access rights to the CHPP and Train Load Out.

#### **Acquisition detail**

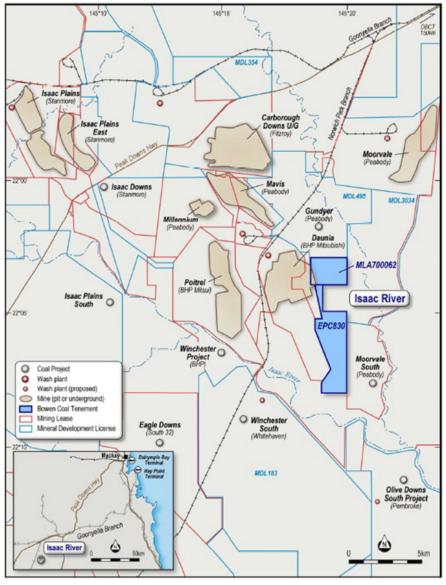
On 4 August 2021, Bowen announced the purchase of the New Hope Group's 90% interest in the New Lenton Joint Venture, which owns 100% of the Burton and Lenton operations for A\$20M (50% payable in shares), up to A\$7.5M in milestone payments, and royalties comprising:

- A\$0.55/t capped at \$16M,
- ♦ A\$1.65/t in each guarter where HCC over US\$160/t capped at \$24M, and

♦ A\$3.30/t for prices over US\$190/t capped at A\$30MA\$0.55/t capped at \$16M,

#### ISAAC RIVER PROJECT

Figure 12 Isaac River location and neighbours



Source: BCB release 28 July 2021

#### Location

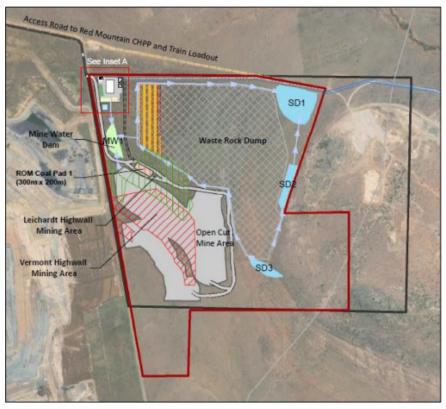
- Located immediately east of Whitehaven's Daunia Mine and immediately south of Peabody's Moorvale West and Gundyer Projects.
- The most likely processing solution would be the Red Mountain Coal Handling and Preparation Plant serving Poitrel and Millennium, at a haul distance of 10.45Km. Daunia is closer but has no spare capacity. Carborough Downs (Fitzroy) has a processing arrangement with Bowen but is a longer haul and that haul will have to cross the Peak Downs Highway.

#### **Mine Plan**

- In 2020, a two stage mine plan was envisaged, with Stage 1 of the project is focused on mining the Leichhardt seam (Rangal Coal Measures) at between 25 and 142m deep, 2.5 to 5.5m thick with potential for Semi Soft Coking Coal and Semi Hard Coking Coal and secondary thermal coal or a single PCI (Pulverised Coal Injection) product. Stage 2 was targeting the lower seams.
- ♦ The latest mine plan released 28 July 2021 mines 2.65Mt including 2.03Mt from the Leichardt and 0.63Mt from the Vermont, starting in the south-east corner of the proposed pit in Figure 12 and moving north-west in the Leichardt, then mining the Vermont.

- ↑ There will remain a gap between the Daunia pit visible in Figure 15 to the west and Isaac River which would be economic coal that be mined if an agreement could be reached between Bowen and the BHP Mitsubishi Joint Venture. We understand that BHP may be selling Daunia, and possibly the rest of its interest in the Joint Venture, so any agreement may have be with new owners.
- It is also not out of the question that the owners of Daunia may end up purchasing Isaac River as a way of extending Daunia's life.

Figure 13 Proposed Stage 1 open pit

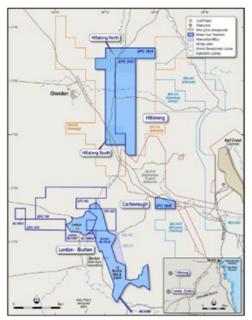


Source: BCB presentation 24 June 2020

#### HILLALONG PROJECT (BCB FARMING DOWNTO 80%)

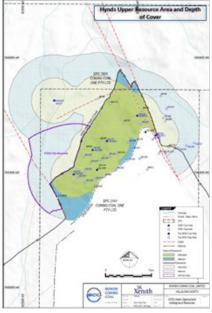
#### Location

Figure 14 Hillalong tenements



Source: BCB presentation 23 August 2021

Figure 15 Hillalong North



Source: BCB presentation 24 June 2020

The Hillalong Coking Coal Project (EPC 1824 & EPC2141) is located in the northern Bowen Basin approximately 105 km west-southwest of Mackay, and within 15Km trucking distance to the Burton Coal Handling and Preparation Plan.

#### **History**

- Farm-In Agreement on the Hillalong Coking Coal Project ("Hillalong"), with SCAP Hillalong Pty Ltd, a wholly owned subsidiary of the Japanese Conglomerate, Sumitomo Corporation. The execution of Farm-In Agreement follows the previous signing of a Term Sheet with Sumitomo, as announced on 7 October 2019.
- ♦ A summary of the key terms and conditions of the Farm-In Agreement are as follows:
- Sumitomo to fund \$2.5m of pre-defined exploration expenditure, being the entire phase 1 exploration program for both Hillalong North and Hillalong South, to earn an initial 10% interest in Hillalong;
- Sumitomo has the right to then earn an additional 10% interest, post a further \$5m funding of agreed exploration and study activities at Hillalong; and
- ♦ BCB and Sumitomo will form an unincorporated Joint Venture managed by BCB, post Sumitomo earning either the initial 10% or 20% interest, as the case may be
- On 11 December 2020, Sumitomo committed to funding of Phase 2, and will spend A\$2.5 million to earn a further 5% interest ie to a total of 15%).
- On 29 June 2023, Sumitomo committed to fund a further A\$2.5M which on completion will increase its interest to 20%, leaving Bowen with 80%.

#### Geology

- ♦ The tenement comprises 31 sub-blocks (approximately 99km2) located to the west of the Mount Hillalong Anticline and is approximately 16 km northwest of the Hail Creek mine, owned by Glencore, Marubeni and Sumitomo. The tenement contains the Moranbah, Rangal and Fort Cooper Coal Measures commencing at surface.
- Two economic coal seams, Elphinstone and Hynds (Leichardt and Vermont equivalents) within the Rangal Coal Measures are currently being mined at nearby mines. Historical exploration by Rio Tinto proved the existence of these seams within the boundaries of the tenement with indicative coking coal qualities aligned with neighbouring mines.
- The reported Hillalong North Resource above 150m of 19.5Mt is open to the east and south-west. The seams in those area dip at 7-10 degrees to the north-northwest.
- ♦ Coal seams in the Hillalong South Deposit generally dip to the west at dips of 10-45 degrees. The 2019 drilling encountered a number of intersections between 116m and 167m depth, with seam widths around 5.6m (release 31 August 2021 p2). The implication is that there is potential for open pit coal in the South, at strip ratios of 10-14:1, vs sub 10:1 for the rest of Bowens portfolio.

Table 19 Hillalong Resources (100% Of project basis)

Depth	Seam	Measured	Indicated	Inferred	Total
Hillalong North					
<150m	Elphinstone		4.0	4.5	8.5
	Hynds Upper		9.1	1.9	11.0
	Subtotal		13.1	6.4	19.5
>150m	Hynds Upper		7.7	15.9	23.7
	Subtotal		7.7	15.9	23.7
	Total		20.8	22.3	43.2
Hillalong South					
OP and UG	Elphinstone		20.0	15.5	35.53
	Hynds Upper		8.8	7.3	16.1
	Hynds Middle		6.7	5.2	11.9
	Total		25.8	18.0	43.8
	Combined		56.3	50.3	106.6

Source: BCB releases 9 August 2023

Some of the deposit has been heat effected by volcanics. Heating changes the coal driving off volatiles, typically lowering coal quality and commercial saleability. Sometimes the heat effect can be positive. The table below shows the very positive product specifications at around 80% yield for coal that is not heat effected. In a release of 24 August 2020, Bowen

indicated that the heat effected coal tested to date could produce a 12.3% ash 7032kcal/kg coal that could be sold as a PCI product. Further assessment is required, but the company appears to be confident there is a solid case for a commercial operation here.

**Table 20 Product Specifications** 

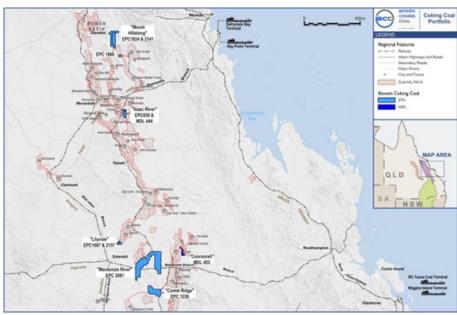
Hard Coking	Ash %	Yield %	CSN	Volatiles %	Phos %	Sulphur %	Fluidity ddpm	Rv/Max
Elphinstone	10.5%	84%	7.0	28.8%	0.003%	0.4%	348	0.95%
Hynds Upper	8.5%	66%	7.5	28.2%	0.043%	0.4%	361	0.99%
Thermal	Ash %	Yield %	CV Kcal/ kg	Volatiles %	HGI	Sulphur %		
Hynds Upper	16.5%	21%	6730	24.3%	49	0.31%		

Source: BCB releases 5 March 2021

- In our financial model, we assume 15Mt (78% of the 19Mt Indicated Resource above 150m) of the for the North Mine at a Stripping Ratio of 7:1 (BCM:tonne). The strip ratio is close to the average of the depth to top of first seam divided by the first seam thickness, adjusted for relative density of waste vs coal for the reported drilling.
- For the South Mine we assume 10Mt (29% of the total Indicated Resource) at a stripping ratio of 10:1, based on the shallower intersections reported in drilling to date.

#### **OTHER PROJECTS**

Figure 16 Other projects are located in the Emerald region



Source: BCB presentation 13 March 2019

This report comments separately in Isaac River and Hillalong.

#### COOROORAH PROJECT (MDL 453 100% BCB)

#### **Summary**

- Cooroorah is potentially an underground mine with coal seam depths being between 240m and 540m below surface. These depths are greater than typical in Queensland, but these depths have been mined in Wollongong region of New South Wales. The average seam thicknesses range from 2m in the Castor seam to 4m in the Mammoth seam.
- Metallurgical testing has indicated average yields of 73% to 90% achieving a washed product ash of 8-9%. There is potential for the Mammoth seam to produce a 3.5% ash, 8–9 CSN coking coal with secondary 10% ash 7560K/kcal/kg PCI for a combined lab yield of more than 90% (ad), which could sell at a premium to the current benchmark price.
- ♦ The Resources demonstrated so far include 60Mt in the Mammoth seam. There is no reserve nor mine plan at this stage. Assuming a 66% conversion of Mammoth to Reserves, there could be sufficient coal for a 4Mtpa longwall operation for 10 years.

By their nature, development of an underground coal mine is both expensive and time consuming, making this a project to be developed once Bowen has a cash flow and a sufficiently strong balance sheet. As an example, Whitehaven's Narrabri Underground Mine started construction in 2008, commenced coal production in 2010, and reached full production at around 6Mtpa in 2012, four years after start of construction. The total capital cost was A\$335M.

#### Geology

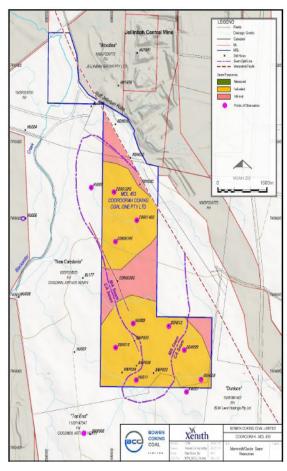
- Cooroorah is situated immediately adjacent to and south of the Jellenbah Coal Mine.
   It contains sediments from the late Permian Rangal Coal Measures and the Burngrove Formation and Early Triassic Rewan Formation.
- ♦ The main exploration target is the coal seams at depth. The main structural element is the Jellenbah Fault which runs northwest to southeast through the MDL and can give a maximum displacement of 600m. The dip of the strata is 3-5 on the southwest portion of the MDL. Dips become much steeper to 15 to the northeast on the northeastern side of the Jellenbah Fault.

**Table 21 Cooroorah Resources** 

Seam	Measured	Indicated	Inferred	Total
Aries		4		4
Castor		15	4	19
Mammoth		38	22	60
Pollux		15	11	26
Pisces Upper		24	40	64
Pisces Upper/Lower			4	4
Total		96	81	177

Source: BCB release 3 April 2019

Figure 17 Cooroorah location immediately south of Jellenbah Open Pit Mine



Source: BCB release 12 February 2019

#### LILYVALE (EPC 2157 EPC 1687 15% BCB)

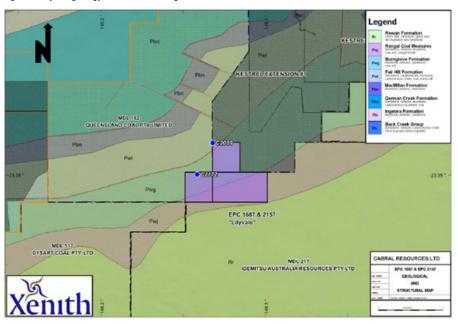
#### **Summary**

- Bowen owns a 15% interest in the Lilyvale tenements which currently have 33Mt of German Greek seam coal at a depth of between 335m and 425m (2017 prospectus expert report Table 1 page x). This asset probably is better consolidated with surrounding assets to generate a Reserve sufficient to support an underground mine development.
- As majority owner, Stanmore is in the driver's seat, but Bowen's interest does provide significant intelligence on the prospectivity of the neighbourhood in the event any of the surrounding tenement owners decide to sell.

#### Geology

- The Lilyvale Project is situated to the east of the structural zone known as the Comet Platform. The project area contains Late Permian Rangal Coal Measures and the Burngrove Formation, At depth the Fairhill and German Creek Formations have been intersected by drilling, the main target being German Creek.
- Structurally there are no major geological structures identified. Sediments generally dip at low angles of 3-8° to the east-southeast.
- Intersections of the German Creek Formation have includes seams 2.4m thick, low in phosphorous and sulphur and yields of 85%. The coal has moderate CSN and fluidity and has potential to produce a blended coking coal.

Figure 18 Lilyvale geology and immediate neighbours



Source Prospectus September 2017

#### COMET RIDGE (EPC 1230 100% BCB)

#### **Summary**

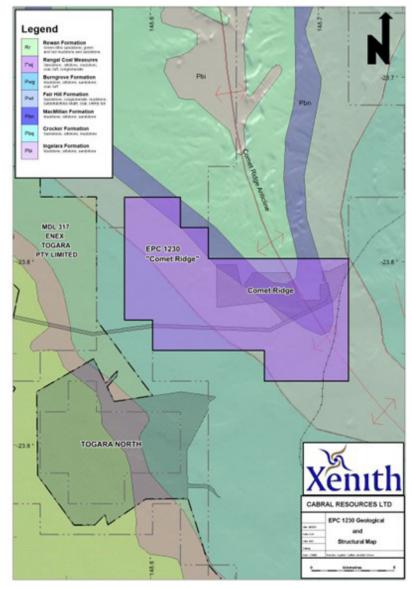
♦ In 2018, Bowen attempted to sell this tenement for A\$0.1M cash and a 1.25% net revenue royalty on the first 2.8Mt of saleable production, effectively capped at \$3M. The deal fell through, but it probably remains the clearest expression of Bowen's strategic thinking on this asset. At the time of the sale proposal, Bowen noted that neighbour Springsure Creek was better placed to develop Comet Ridge.

#### Geology

- ♦ EPC 1230 is located at the southern end of the Comet Ridge Anticline on the stable basement block known as the Comet Platform. Comet Ridge contains sediments from the Fair Hill and Burngrove Formations which are interpreted to be part of the Blackwater Group.
- Sediments deposited during the Permian and Early Triassic Periods have been weekly
  deformed and folded resulting in the Comet Ridge Anticline axis striking northwest to
  Southeast and plunging gently to the south. The limbs of the Anticline dip shallowly to the

east and west at an average 2-4°. Other than the Anticline, there are no major identified structural features.

**Figure 19 Comet Ridge Tenement** 



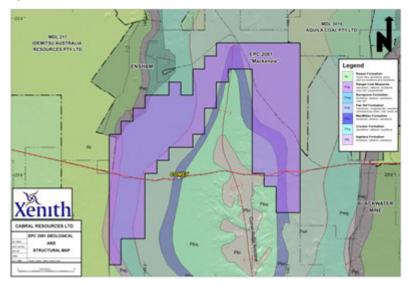
Source: Prospectus September 2017

## MACKENZIE (EPC 2081 5% BCB)

## **Summary**

- Bowen has a very small holding of 5% of this tenement with Stanmore Coal, which wraps around the Comet platform to the north of the company's Comet Ridge tenement.
- There is some 21 drill holes into the deposit, with no Resource. Metallurgical test work has not encouraged further expenditure. Raw ash in the Leo and Aquarius seams range from 29% to 49%, and generating a 15% ash product would require yields of 11-62% including fines (Prospectus September 2017). Product CSN results are 0.5. Some individual coal plies or bands show CSN results of up to 7, but overall, this does not look like a potential supplier to the Coking Coal market.

Figure 20 Mackenzie tenement location



Source: Prospectus September 2017

## WEIGHTED AVERAGE COST OF CAPITAL

Table 22 Calculation of Weighted Average Cost of Capital for Bowen of 9.5%

able 22 Calculation of Weighted Average Cost of Capital for Dowell of 3.376						
Cost of Equity	BCB	SMR	WHC	Source		
Beta Range	0.85	0.32	0.27	https://au.finance.yahoo.com/quote/Various		
Risk free rate (Rf)	4.63%	4.63%	4.63%	https://www.rba.gov.au/statistics/tables/		
Market Risk premium (Rm)	5.00%	5.00%	5.00%	http://www.market-risk-premia.com/au.html		
Market premium (Rm)	9.86%	9.86%	9.86%			
Cost of Equity	9.08%	6.30%	6.04%	Ke = Rf + Beta(Rm - Rf)		
Nominal WACC						
Cost of Equity Ke	9.1%	6.3%	6.0%			
Cost of Debt Kd	14.0%	14.0%	14.0%	New Hope 8-10% + 3mth BBSY ie 2.5%		
Gearing D/(D+E)	60.0%	60.0%	60.0%			
Gearing E/(D+E)	40.0%	40.0%	40.0%			
Tax Rate	30.0%	30.0%	30.0%			
Weighted Average Cost of Capital (Ke)	9.51%	8.40%	8.30%	W = (Ke * (E/V)) + (Kd * (1-t)*(D/V))		
Real WACC						
Expected Inflation	2.58%	2.58%	2.58%	https://www.rba.gov.au/statistics/tables/		
(1+real) = (1+Ke)*(1+I)	1.068	1.057	1.056			
Therefore Real WACC	6.76%	5.68%	5.57%			

Sources: As noted in table

♦ Coal companies have risen on coal pricing drivers while the broader market has declined and therefore have Betas well below 1. In our view, this doesn't make them less risky investments, so for Bowen, we have used an arbitrary Beta of 0.85 rather than 0.3 implied by Whitehaven or Stanmore.

## **CORPORATE RELATIONSHIPS**

## FITZROY COAL OPERATIONS

- ♦ In the November 2023 capital raise, \$16 million or 178 million shares were placed with Kirmar GmbH, a company associated with coal investor Hans Mende who is also associated with Fitzroy Coal Operations. A representative of Kirmar is expected to join the Bowen board at some stage.
- Fitzroy's assets surround those of Bowen (see figure below), and there could be significant synergies between the two groups who have worked closely before.

EPC 951

EPC 1086

MDL 384

Project

Broadmeadow East

EPC 722

PC 858

EPC 739

Boadle

EPC 858

EPC 1146

MIN 20334

MIN 20335

MIN 20355

MIN

Figure 21 Fitzroy Coal Operations assets surround those of Bowen

Source: https://fitzroyoz.com.au/operations/, IIR has added shapes to indicate location of Bowen assets

#### **M RESOURCES**

- Owns 112.4M Bowen shares at 28 November 2023
- Owns 19.9% of Stanmore Coal, BCB's JV partner in Lilyvale and Mackenzie Joint Ventures
- Owns 50% of Coal Marketing JV with BCB and has exclusive rights to market all BCB coal except for Hillalong where Sumitomo must be accommodated. This means that in Japan the JV will not have exclusive marketing rights.

# STANMORE COAL

- Stanmore Coal is the majority joint venture partner in the Lilyvale and Mackenzie Ventures
- ♦ Bowen current Board members Nick Jorss and Neville Sneddon were previously Stanmore board members.

# **CAPITAL STRUCTURE**

Table 23 Capital structure at 4 December 2023

4-Dec-23	Million
Issued shares M	2843.88
Convertible Note A\$40M	164.70
Option 31 Aug 2024 @ 8cps	0.18
Option 30 Sep 2024 @ 25cps	19.00
Total Options	19.18
Warrants	100.00
Performance Rights M	30.07
Fully Diluted M	3157.82

# Source: BCB releases 27 November 2023

The owners of the issued shares own 90% of the company. The balance is largely represented by Crocodile Capital's convertible notes and New Hope's warrants.

The options are owned by Nick Jorss (10M) Nevile Sneddon (3M) and Matt Latimore (2.179M).

## **CONVERTIBLE NOTES**

The convertible notes were issued on 20 June 2022 and earn an interest of 3% pa. Bowen can elect not to pay interest in which case the Company has the ability to capitalise interest to the outstanding convertible loan note balance in lieu of cash at an interest rate of 4.00% per annum.

The conversion price of the notes increases by A\$0.005/sh every six months from 20 June 2023, and is adjusted for dilution from share issuance. As a result of issuance, the conversion price was reduced to A\$0.30321/sh at 30 June 2023 and reduced to A\$0.2481/sh at 3 November 2023 due to further dilutive issuance. The table below includes the A\$0.005/sh uplift on 20 Dec 2023.

Table 24 Crocodile Convertible Note conversion price to maturity 20 June 2028

Conversion Price at Date	Jun-23	Dec-23	Jun-24	Jun-25	Jun-26	Jun-27	Jun-28
Without Dilution A\$/sh	0.3250	0.320	0.315	0.305	0.295	0.285	0.275
After Dilution Adj. A\$/sh	0.300321	0.2631	0.268	0.278	0.288	0.298	0.308
Shares on conversion M	133.2	152.0	149.2	143.8	138.8	134.2	129.8

Source: June 2023 conversion price per BCB 2023 annual report, then IIR estimates

#### **WARRANTS**

The warrants were issued to New Hope in lieu of interest payments as part of the refinancing announced on 29 September 2023. The table below shows the earliest date at which the options can be exercised into shares. New Hope can elect to delay exercise of any or all the warrants until 30 September 2024, at which time they expire.

Because the warrants represent payments of interest, we expect New Hope will convert to shares at the earliest opportunity and sell into the market each quarter. The first opportunity to see what New Hope plans to do will be 15 December 2023.

The warrants convert at A\$0.1144/sh so each conversion will raise A\$2.86M for Bowen. The outstanding debt owed to New Hope is A\$47.9M and the interest rate is the three month BBSW plus 10%, which at the current rate totals 14.38%, so Bowen is liable for A\$1.72M in interest per quarter. The balance of the warrant conversion (2.86-1.72= \$1.14M) will be booked as a reduction in the principal owing to New Hope.

Table 25 Warrant exercise schedule

	15-Dec-23	15-Mar-24	15-Jun-24	15-Sep-24
Warrants exercisable M	25	25	25	25
Cumulative	25	50	75	100

Source: BCB release 29 September 2023

While the sale of these large blocks of shares into the market would normally weigh the market down and depress the share price, the visibility and availability of such blocks could also attract corporate interest, possibly from Hans Mende's Kirmar GmbH, which has 6.2% of Bowen at 4 December 2023.

# **MAJOR SHAREHOLDERS**

Table 26 Major shareholders as reported to the market at 30 November 2023

	4-0ct-2	23		Post Issue	
Substantials from Notices Received	Shares Million	Interest	Shares Million	Interest	Source:
Regal	261.49	11.8%	365.04	12.8%	27-Nov-23
Kirmar GbmH	0.00	0.0%	177.78	6.3%	3-Nov-23
Latimer Interests	144.45	6.5%	112.36	4.0%	12-Dec-23
llwella	136.49	6.2%	participated		
Crocodile Capital	128.12	5.8%	276.56	9.7%	11-Nov-23
iolite Partners	110.00	5.0%			
Hew Hope	15.10	0.7%	15.10	0.5%	
Nick Jorss	53.97	2.4%	56.20	2.0%	13-Nov-23
Neville Sneddon	7.81	0.4%	8.36	0.3%	13-Nov-23
Other	1355.82	61.3%			
Shares on Issue	2213.25	100.0%	2843.9	100.0%	

Sources: BCB releases as noted in last column and 2023 annual report (4 October 2023)



If Crocodile Capital converted its notes to shares it would own 14.2%. If New Hope converted and retained its warrants. It would own 3.6% of Bowen .

New Hope was issued 76.9M shares on 2 October 2023 and from the table above, appears to have sold down to 15.1M shares two days later, however that is not possible given the total turnover on 2-4October was only 23M shares. More likely, New Hope received the shares just after 4 October, and it is unclear whether they sold or not.

Table 27 History of share issuance since June 2022

Reason for Issuance	Date	Issue M	Price A\$/sh	Equity A\$M	Cash A\$M	Issued M	Capital A\$M
Option exercise	8-Aug-22	4.0	0.028	0.1	0.1	1546.8	124.0
Option exercise	5-Sep-22	0.5	0.410	0.2	0.2	1547.3	124.2
Adj		0.2	0.000	0.0	0.0	1547.5	124.2
Placement	27-0ct-22	253.5	0.300	76.1	76.1	1801.1	200.3
Placement	30-Nov-22	29.8	0.300	8.9	8.9	1830.9	209.2
Option exercise	11-Jan-23	4.0	0.320	1.3	1.3	1834.9	210.5
Option exercise	16-Feb-23	5.8	0.100	0.6	0.6	1840.7	211.1
Issue of Performance shares	13-Apr-23	1.0	0.250	0.3		1841.7	211.3
Issue of Performance shares	3-May-23	0.1	0.225	0.0		1841.8	211.3
Issue of Performance shares	17-May-23	0.1	0.210	0.0		1841.9	211.3
Placement	13-Jun-23	209.8	0.170	35.7	35.7	2051.7	247.0
Placement	28-Jun-23	5.8	0.170	1.0	1.0	2057.5	248.0
Placement	30-Jun-23	53.0	0.170	9.0	9.0	2110.5	257.0
SPP	24-Jul-23	25.5	0.170	4.3	4.3	2136.0	261.3
New Hope Placement	2-0ct-23	76.9	0.130	10.0	10.0	2212.9	271.3
Issue of Performance Shares	4-0ct-23	0.3	0.130	0.0		2213.2	271.4
Issue of Performance shares	9-Nov-23	0.0	0.090	0.0		2213.3	271.4
Placement	10-Nov-23	375.0	0.090	33.8	33.8	2588.3	305.1
SPP	27-Nov-23	180.5	0.090	16.2	16.2	2768.8	321.4
Placement	4-Dec-23	75.0	0.090	6.8	6.8	2843.9	328.1

Source: BCB releases on dates in column 2

The last twelve months have seen shareholders suffering considerable dilution with shares on issue rising from 1542M to 2844M, an increase of 84%.

## **BOARD AND MANAGEMENT**

## **Nick Jorss - EXECUTIVE CHAIRMAN**

- Nick Jorss was the founding Managing Director and a substantial shareholder of Stanmore Coal Ltd (via St Lucia). Nick served on Stanmore's Board from its formation in June 2008 through 26 November 2016. He has over 20 years' experience in investment banking, civil engineering, corporate finance and project management.
- Nick was instrumental in the success of Stanmore Coal Ltd. As the Founding Managing Director, Nick led Stanmore's growth from a coal exploration company to a profitable, mid-tier producer. In his prior roles in investment banking (as a director of Pacific Road Corporate Finance) he has been involved in leading advisory mandates with corporate, government and private equity clients across industry sectors ranging from resources to infrastructure.
- Prior to this Nick was an engineer with Baulderstone Hornibrook where he delivered significant infrastructure and resources projects over a period of approximately eight years.
- Nick is a founding shareholder and Director of St Lucia Resources, Kurilpa Uranium and Wingate Capital. He was previously a Director of Vantage Private Equity Growth, Vantage Asset Management and WICET Holdings Pty Ltd. During the past three years Nick has not served as a Director of any other ASX listed companies.
- Nick joined the Bowen Board on 13 December 2018.

#### **Neville Sneddon - Non-Executive Director**

- A mining engineer with over 40 years' experience in most facets of the Queensland and NSW resource sectors, and as the recently retired Chairman of Stanmore Coal Ltd, Neville brings substantial Board and industry knowledge to BCB. He has developed and operated both underground and open cut mines working for Coal & Allied in the Hunter Valley and from 1997 worked in a senior role in the NSW Mines Inspectorate, covering operations in all forms of mining in the state.
- Moving to Queensland in 1999, Neville accepted the position of Chief Operating Officer with Shell Coal which was acquired by Anglo American's Australian coal operations the following year. Leaving as CEO in 2007, he held several Board positions with mining and infrastructure companies including Chairman of the operating company at Dalrymple Bay Coal Terminal near Mackay and Director of Port Waratah Coal Services, a major coal export facility at Newcastle.
- Neville has also been a member of the Boards of the Queensland, NSW and National Mining Councils. His expertise has been sought by several government committees such as the NSW Mine Subsidence Board, NSW Mines Rescue Board, Queensland Ministerial Coal Mine Safety Advisory Committee and the joint federal/ state advisory committee which is developing nationally consistent mining safety legislation. During the past three years, Neville served as the Non-Executive Chairman/Director of Stanmore Coal Limited from 5 October 2009 to 31 March 2018. Neville is not a Director of any other listed companies.
- Neville joined the Bowen Board on 13 December 2018.

## **David Conry AM- Non Executive Director**

- Mr Conry was appointed on 23 June 2023
- He is an experienced company director and senior executive, who has held several board roles in the private and public sectors and for all three levels of government. David Conry AM has experience in the mining industry, strategy and communication, corporate administration, finance and compliance as well as private and executive interests in investment and advisory services.
- Most recently, David Conry AM was Chairman and Chief Executive Officer of Australian Pacific Coal Limited where he oversaw the successful application to extend the mining lease of the company's primary underground asset at Dartbrook in the Hunter Valley. Prior to his retirement from this role the company announced a joint venture that would see the mine work toward recommencing operations from care and maintenance. This, together with complete debt repayment including a \$100.0 million recapitalization added significantly to the company's value over the period of his tenure.
- ♦ David Conry AM has joined the Company's newly formed Audit & Risk Management and Nomination and Remuneration Committees, and will chair the Audit & Risk Management Committee

#### **Mark Ruston - Chief Executive Officer**

- Mr Ruston was appointed on 27 March 2023
- He is a mining executive with over 30 years of experience in coal and metalliferous open pit and underground operations, across Australasia and Africa, both for mining contractors and principals.
- Mark Ruston is a highly accomplished executive having recently held General Manager roles for Thiess, Golding Contractors, Baralaba Coal Company and Macmahon Holdings. He has a demonstrated track record of maximising all areas of operational performance, contractor management and new project integration.
- He holds a Bachelor of Engineering (Civil) (Monash University), a Graduate Diploma of Mining (University of Ballarat) and a MBA from Latrobe University (Dean's Award – Academic Performance). Mark has also served as an alternate director on the Queensland Resources Council and served on the Monash University Resources Engineering Board.

## **Daryl Edwards - Chief Financial Officer**

- Mr Edwards is a Chartered Accountant with over 22 years' experience in the mining and manufacturing industries.
- ♦ He has held various executive positions including CEO of a private Australian coal explorer, Pioneer Coal, and CFO and Head of Corporate Development for Universal Coal plc (ASX:UNV) for over 7 years, where he managed the commercialisation of the 4Mpta Kangala Colliery and the 3.3Mtpa New Clydesdale Colliery.
- Previously, Mr Edwards was CFO at Asenjo Energy, a Botswana-based coal exploration and development company, held privately by Aquila Resources, Sentula Mining and Jonah Capital.

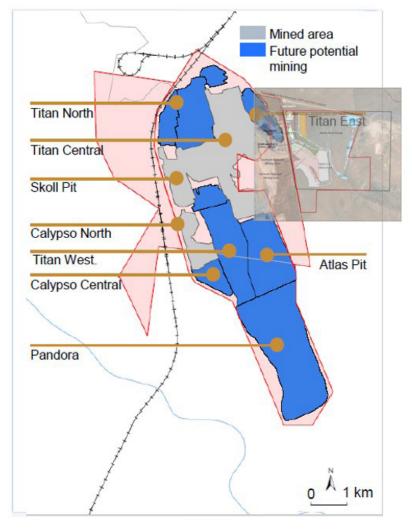
#### **Duncan Cornish – Company Secretary**

- Mr Cornish was the founding CFO and Company Secretary for both Stanmore Coal Ltd (ASX:SMR) and Cokal (ASX:CKA) and is a Chartered Accountant with significant experience as a public company CFO and Company Secretary, focused on finance, administration and governance roles.
- ♦ He has more than 20 years' experience in the accountancy profession both in England and Australia, mainly with the accountancy firms Ernst & Young and PricewaterhouseCoopers. He has extensive experience in all aspects of company financial reporting, corporate regulatory and governance areas, business acquisition and disposal due diligence, capital raising, company initial public offerings and company secretarial responsibilities, and has served as CFO and/or Company Secretary of several Australian and Canadian public companies.

## **APPENDIX 1: WHITEHAVEN PURCHASE OF DAUNIA**

Whitehaven Coal's purchase of BHP's Daunia and Blackwater mines is relevant to the valuation of Bowen in general and Isaac River in particular. Isaac River is the extension of Daunia's Titan East Pit. The major development at Daunia is concentrated in the Pandora pit on the current mine plan. The potential addition of Isaac River

Figure 22 Whitehaven's Daunia mine showing the location of Isaac River (for Isaac River detail refer Figure 13)

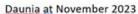


Source: WHC presentation 18 October 2023

The Titan East Area adjacent to Isaac River was being mined in 2020 but appears to have water in the pit bottom now so is not currently an active working area (Figure 22).

Figure 23 Daunia pit development in 2020 and 2023 with areas of change highlighted in yellow







Source: Google Earth

Whitehaven is paying BHP US\$3200M including US\$2100M up front and US\$1100M in part payments over time. Whitehaven will also pay US\$900M if prices are over set benchmarks. For our valuation purposes, the US\$900M has been ignored.

Table 28 Acquisition price of US\$3200M translates to A\$16.80/t Reserves or A\$2.52/t Resource

	Resources Mt	Reserves Mt	ROM mtpa	Clean mtpa
Daunia	115	81	6	4.9
Blackwater	1837	212	14.8	12.4
Total	1952	293	20.8	17.3
Valuation A\$/t	2.52	16.80	236.69	284.57

Source: WHC presentation 18 October 2023

The valuation of A\$16.80/t Reserve on a ROM basis would translate to A\$21/t Saleable product in Reserves, and is at odds with the expected average cash margin of around A\$250/t saleable product (Table 32). If Whitehaven has paid A\$21/t for coal worth A\$250/t it has purchased something that will truly transform the company.

Table 29 Expected cost and margin for FY24-28

	Cash Cost A\$/t FOB	Sustaining Capex A\$/t	AISC A\$/t FOB	Ave Realised Price A\$/t F0B	Margin A\$/t FOB
Daunia	122.0	7.8	129.8	374.0	244.2
Blackwater	110.0	9.3	119.3	379.0	259.7
Difference					15.5

Source: WHC presentation 18 October 2023. All tonnes are of saleable product. To get the equivalent metrics on a ROM or Reserve tonne basis divide by 80% yield (ie recovery)

## **APPENDIX 2: IEA STEEL TECHNOLOGY ROADMAP TO 2050**

#### A VERY OUICK INTRODUCTION TO STEELMAKING

The role of coal is steel making is threefold.

- ♦ It provides energy, which other sources could do, but
- it also provides porosity in the blast furnace which allows the heating gas to circulate through the iron ore burden, without which a blast furnace of today's size would not function, and finally
- it provides carbon. Iron ore is iron oxide, and the oxygen has to be removed to make steel. Coal is a reductant that removes the oxygen, making carbon dioxide. Steel is an alloy of iron and carbon. There is established technology to make steel using methane as the energy source and as reductant, and hydrogen could be used in place of methane, but is not commercially established technology and due to hydrogen embrittlement issues, may never be able to replace coal completely, if at all.

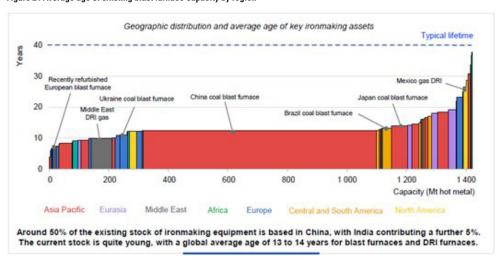
While a number of established steel makers in developed countries talking about moving to more scrap, that just pushes the pressure to build more blast furnaces onto the emerging countries as total steel demand will continue to require steel from iron ore. Europe might look good, but China, India, and others will have to make up the difference, so globally, scrap is not a solution.

The IEA Roadmap is a well thought plan for how the steel industry could evolve to net zero carbon emissions by 2050, reflecting the practical timelines for the rollout of new technologies and operating practices to achieve that aim. It's Sustainable Development Scenario also probably represents a best case, for carbon reduction and the worst possible case for coal miners, but even that case still has coal consumption of 540Mtpa of coking coal.

## CARBON CAPTURE ISTHE NEXT STEP FOR MOST, NOT CLOSURE

Over 80% of the existing stock of blast furnace capacity is under 15 years old and has another 25 years of life at least (Figure 1). Because the capital costs have been spent, any pressure to de-carbonize is likely to result in carbon capture being added, rather than closure of the plant, so the capacity will remain a customer of the coal miners.

Figure 24 Average age of existing blast furnace capacity by region

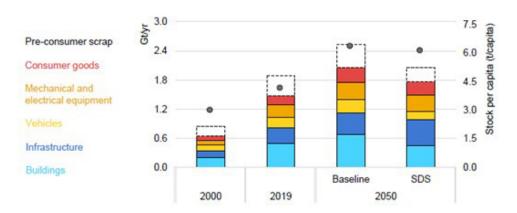


Source: IEA Iron and Steel Technology Roadmap – Towards more sustainable Steelmaking 8 October 2021 https://www.iea.org/reports/iron-and-steel-technology-roadmap

#### IEA FORECAST: DEMAND FOR STEEL HIGHER IN 2050

Steel end use demand is expected to grow from 1500Mt in 2019 to 2100Mt in 2050 on the business as usual baseline assumptions, an increase of 40%. The sources of demand are detailed in Figure 25. End use demand is the steel that actually reaches the customer and excluded the steel that becomes scrap in the manufacturing process, which is represented by the dotted boxes in Figure 25.

Figure 25 End use demand for steel in 2050 assuming policy settings pre COP26 (Baseline) and under a Sustainable Development Scenario (SDS), and showing the industry sectors where the steel is consumed



 $Source: IEA \ Iron \ and \ Steel \ Technology \ Roadmap-Towards \ more \ sustainable \ Steel making \ 8 \ October \ 2021 \ https://www.iea.org/reports/iron-and-steel-technology-roadmap$ 

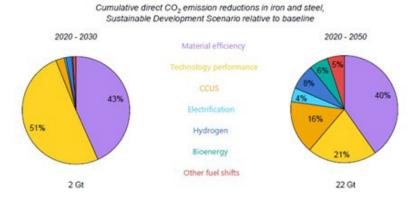
Under the Sustainable Development Scenario (SDS), demand of forecast to grow 10% from 2019 to 2050. Note the large increase in infrastructure, part due to general growth, but part also related to the large rollout required in relation to new energy supply infrastructure.

#### IEA FORECASTS LITTLE CHANGETO 2030 ON LOWEST DEMAND CASE

In the period to 2030, the difference between the business at current policy settings (STEPS) and the sustainable development scenario (SDS) is almost entirely about the steel demand side, driven by policies that are outside the steel industry and relate to design and end use that increase the useful life of products, such as increasing building life, and increasing efficiency of manufacturing processes by reducing steel waste and increasing energy use efficiency.

If the world can achieve the SDS outcome, 2030 end use steel demand is only slightly higher than 2019, but still supplied by largely the same steel making capacity as today. The big changes on the steel supply side take place after 2030, and the biggest of those is expected to be carbon capture retrofits on existing capacity, which has the potential to sustain coal demand long term.

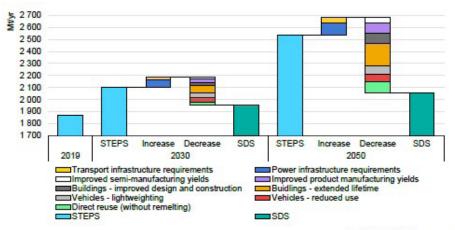
Figure 26 Sources of reduction in end demand for steel by 2030 and 2050, with almost all the savings being on the demand side up to 2030, with supply side changed starting to take effect after 2030



Technology performance improvements and material efficiency deliver 90% of annual emission reductions in 2030. In the longer term, innovative technologies such as CCUS-equipped and hydrogen-based production are required.

Source: IEA Iron and Steel Technology Roadmap – Towards more sustainable Steelmaking 8 October 2021 https://www.iea.org/reports/iron-and-steel-technology-roadmap

Figure 27 Sources of reduction in end demand for steel by 2030 and 2050, with almost all the savings being on the demand side up to 2030, with supply side changed starting to take effect after 2030



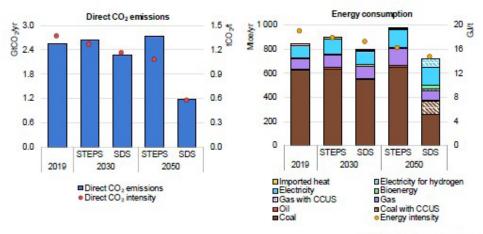
IEA 2020. All rights reserved.

Notes: STEPS = Stated Policies Scenario, SDS = Sustainable Development Scenario. "Demand" here equates to global crude steel production rather than end-use demand alone, in order to include the impact of reducing pre-consumer scrap on required production levels.

Source: IEA Iron and Steel Technology Roadmap – Towards more sustainable Steelmaking 8 October 2021 https://www.iea.org/reports/iron-and-steel-technology-roadmap

#### IEA COKING COAL DEMAND FLATTO 2030, FLATTO DOWN BY 2050

Figure 28 Coal demand in 2030 and 2050 under the IEA's two scenarios



IEA 2020. All rights reserved.

Notes: STEPS - Stated Policies Scenario, SDS - Sustainable Development Scenario. The CO2 and energy intensities are stated on a sectoral basis (including finishing processes, ferroalloy production and other ancillary processes). See Box 1.3 in Chapter 1 for a detailed explanation of the analytical boundaries used in this analysis.

Source: IEA Iron and Steel Technology Roadmap – Towards more sustainable Steelmaking 8 October 2021 https://www.iea.org/reports/iron-and-steel-technology-roadmap

Coal consumed for steel making was around 900Mt in 2019, and under the IEA business as usual scenario (STEPS) is largely unchanged in 2050. Under the Sustainable Development Scenario (SDS), coal consumption is reduced to around 540Mtpa (down 40%).

## INVESTMENT IN COKING COAL MINES TO CONTINUE PAST 2050

These scenarios assume continued production of coal for steelmaking to continue past 2050, which means that investment in coal mining will continue also past 2050. Coal mines have finite lives, and the current generation will have to be replaced. By 2050, the total volume will be down on 2019, but investment in coal supply will still be required.

If for some reason the rollout of alternative steelmaking technologies is accelerated, there may be less demand by 2050, but the IEA paper considers the issues of new technologies like hydrogen reduction and does not expect it will be sufficiently developed to influence the market by 2030.

In the context of Bowen Coking Coal, both scenarios mean that it will have a market it will be able to contest for longer than its current reserve base can supply.

## IEA SCENARIOS ARE VERY BEARISH COMPARED TO INDUSTRY

The demand forecast commentary around Figure 5 sees continuing demand growth for both thermal and coking coal. These forecasts are based on the new power station or steelmaking capacity either under construction or expected to start construction.

The COP26 summit appeared to take a stand against coal, and China has said it will not provide any financial support for coal power station construction outside China. However, all the capacity of concern is in emerging nations, and so whether those as yet uncommitted plants get built or not depends on how quickly the Rich Nations roll out incentives for developing countries to go green.

Availability of electricity is an important political issue in emerging nations because electricity availability drives local manufacturing and that drives job creation. Industry is still best served by large power stations, rather than distributed and intermittent solar and wind arrays, even with batteries.

Implementing the policies that drive the IEA forecasts is critical to achieving either of the two scenarios.

## **APPENDIX 3 – RATINGS PROCESS**

#### Independent Investment Research Pty Ltd "IIR" rating system

IIR has developed a framework for rating investment product offerings in Australia. Our review process gives consideration to a broad number of qualitative and quantitative factors. Essentially, the evaluation process includes the following key factors: management and underlying portfolio construction; investment management, product structure, risk management, experience and performance; fees, risks and likely outcomes.

# LMI Ratings SCORE Highly Recommended 83 and above



This is the highest rating provided by IIR, indicating this is a best of breed product that has exceeded the requirements of our review process across a number of key evaluation parameters and achieved exceptionally high scores in a number of categories. The product provides a highly attractive risk/return trade-off. The Fund is likely effectively to apply industry best practice to manage endogenous risk factors, and, to the extent that it can, exogenous risk factors.

## Recommended + 79–83



This rating indicates that IIR believes this is a superior grade product that has exceeded the requirements of our review process across a number of key evaluation parameters and achieved high scores in a number of categories. In addition, the product rates highly on one or two attributes in our key criteria. It has an above-average risk/return trade-off and should be able consistently to generate above average risk-adjusted returns in line with stated investment objectives. The Fund should be in a position effectively to manage endogenous risk factors, and, to the extent that it can, exogenous risk factors. This should result in returns that reflect the expected level of risk.

## Recommended 70-79



This rating indicates that IIR believes this is an above-average grade product that has exceeded the minimum requirements of our review process across a number of key evaluation parameters. It has an above-average risk/return trade-off and should be able to consistently generate above-average risk adjusted returns in line with stated investment objectives.

## Investment Grade 60-70



This rating indicates that IIR believes this is an average grade product that has exceeded the minimum requirements of our review process across a number of key evaluation parameters. It has an average risk/return trade-off and should be able to consistently generate average risk adjusted returns in line with stated investment objectives.

#### Not Recommended <60



This rating indicates that IIR believes that despite the product's merits and attributes, it has failed to meet the minimum aggregate requirements of our review process across a number of key evaluation parameters. While this is a product below the minimum rating to be considered Investment Grade, this does not mean the product is without merit. Funds in this category are considered to be susceptible to high risks that are not reflected by the projected return. Performance volatility, particularly on the down-side, is likely.

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