

PUBLISHED ON 21 APRIL 2023

# Very large titanium mine

NMT.ASX | NEOMETALS LIMITED | MATERIALS | LIB RECYCLING

PRICE  
**A\$0.59/sh**

TARGET PRICE  
**A\$2.00/sh**  
(UNCHANGED)

RECOMMENDATION  
**BUY**  
(UNCHANGED)

ANALYST  
**TRENT BARNETT**  
TBARNETT@EUROZHARTLEYS.COM

## Potential take-or-pay offtake helps de-risk project

One of NMT's non-core assets is the very large Barrambie hard rock titanium mine in WA. NMT announced it has a term sheet for offtake with Jiuxing Titanium Materials Co for the DSO and part of the MGC, including floor prices (prices undisclosed). The PFS was released in November 2022, but that will be updated in May to develop only the DSO and MGC. The project is very large, with a resource of 280Mt @ 9.2% TiO<sub>2</sub> and a reserve of 44.5Mt @ 18.7%. Total capex was A\$432m in the PFS, and that study broke down into phases as follows (study will be updated soon - so these are subject to be revised in May).

- Phase 1: 2.2mtpa DSO, capex A\$88m
- Phase 2: 1.2mtpa mixed gravity concentrate (MGC), capex additional A\$123m
- Phase 3: 0.4mtpa ilmenite and 0.4mtpa Fe/V2O5 concentrate, capex additional A\$133m

## Strong economics at spot prices, fixed floor price unknown

**DSO:** Assuming a fixed margin on the DSO of around US\$20/t (EH estimate), we estimate that at 2.1mtpa of product the DSO project makes ~A\$55m pa pre-tax free cash flow. Our NPV12 for the DSO is ~A\$220m post tax assuming A\$100m of capital. This assumes DSO could be shipped for lom, not just the 12mths under the offtake. Note our NPV does not depend on commodity prices as its a fixed margin (although if commodity prices fell too much, counterparty risk may increase);

**MGC:** At spot prices (ilmenite price US\$400/t), we estimate that the MGC generates around A\$100m pa pre-tax cash flow. Allocating all the capital to the MGC (ie the DSO + the new capital) of ~A\$211m capex, our NPV12 is A\$310m post-tax. The floor price is undisclosed, however in order for the project to be financed the economics obviously need to be attractive enough. Consequently, we assume that the floor price is somewhere around current prices (implying just over 2x payback). The economics will be better defined when the updated PFS is released in May - so we will update our model then. The floor price is important because otherwise, using our long run ilmenite prices of ~US\$250/t, our free cash flow estimates and NPV12 become marginal.

**LTR:** The LTR economics are very dependant on spot versus long run assumptions. On spot prices, our model generates A\$190m pa of free cash flow, and our NPV12 post tax (assuming all the capital of ~A\$450m) is ~A\$640m. On base numbers the free cash flow drops back substantially unless a floor price could be incorporated.

In our model, the economics are strongest for the DSO model, but only if such an option was possible for LOM (the announcement says it is only for 12mths). Hence, the MGC is important, and economics could be very good, depending on the floor price achieved.

## Buy recommendation

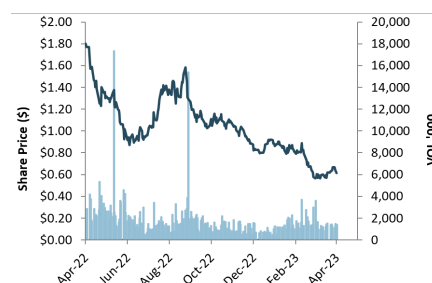
We have been attributing a nominal A\$50m of valuation for Barrambie in our base NMT model. This does not necessarily reflect what the project is worth standalone, it simply reflects our view of the value NMT shareholders will attribute given it is diluted by the potential of the other NMT projects (LIB, vanadium recovery, ELi). More clarity on the floor prices will give us confidence to increase the valuation used in our NMT valuation. If the floor prices reflects somewhere near spot price margins then the project becomes attractive, and the outlook for ilmenite is then only a positive risk. Our pre-tax spot valuation of Barrambie is ~A\$900m (~A\$1.47/shr) highlighting the significant potential.

We have a \$2.00/shr price target for NMT.

Share Price	0.60	A\$/sh
Price Target	2.00	A\$/sh
Valuation (DCF)	1.36	A\$/sh
WACC	12.0%	
Shares on issue	556	m, dil
Market Capitalisation	330.9	A\$m
Enterprise Value	288.9	A\$m
Cash (31 Dec 22a)	42.0	A\$m
Debt (31 Dec 22a)	-	A\$m

Key Financial Metrics	23F	24F	25F
Revenue (A\$m)	5.4	6.3	121.6
EBITDA (A\$m)	-6.1	-5.9	71.9
EBITA (A\$m)	-10.4	-11.1	63.7
Reported NPAT (A\$m)	-9.4	-11.2	62.8
Normalised NPAT (A\$m)	-6.8	-8.1	45.2
Operating Cashflow (A\$m)	-5.6	-6.0	61.7
Capex (A\$m)*	-13.1	-94.2	-58.0
Op. Free Cashflow (A\$m)	-18.8	-100.2	3.7
Revenue Growth (%)	nm	nm	nm
EBITDA Growth (%)	nm	nm	nm
Norm. NPAT Growth (%)	nm	nm	nm
Normalised EPS (Ac)	-1.2	-1.4	7.5
Norm. EPS growth (%)	nm	nm	nm
PER (x)	nm	nm	7.9
EV:EBITDA (x)	nm	nm	4.0

## Performance



Source: Euroz Hartleys

Figure 1: Summary Model

P&L	30 Jun 23	30 Jun 24	30 Jun 25	30 Jun 26
Revenue	5.4	6.3	121.6	145.9
Total Costs	-11.5	-12.3	-49.7	-61.9
EBITDA	-6.1	-5.9	71.9	84.1
margin	-111%	-94%	59%	58%
- LIB Batt. Recyl.	2.1	2.2	80.1	92.7
- Scand. Vanadium	0.0	0.0	0.0	0.0
- Barramie	0.0	0.0	0.0	0.0
- Overheads	-8.2	-8.2	-8.2	-8.6
D&A	-4.3	-5.1	-8.1	-9.5
EBIT	-10.4	-11.1	63.7	74.6
Net Interest	0.9	-0.1	-0.9	-0.2
Pre-Tax Profit	-9.4	-11.2	62.8	74.4
Tax Expense	0.0	0.0	0.0	-15.1
Normalised NPAT	-6.8	-8.1	45.2	53.6
Abnormal Items	-2.6	-3.1	17.6	5.7
Reported Profit	-9.4	-11.2	62.8	59.3
Minority	0.0	0.0	0.0	0.0
Profit Attrib	-9.4	-11.2	62.8	59.3
DPS	0.0	0.0	0.0	0.0

Balance Sheet	30 Jun 23	30 Jun 24	30 Jun 25	30 Jun 26
Cash	35.2	50.0	53.7	112.9
Other Current Assets	1.9	2.0	16.2	19.2
Total Current Assets	37.0	51.9	69.9	132.1
Property, Plant & Equip.	-4.5	84.5	134.3	133.0
Exploration	54.1	54.1	54.1	54.1
Investments/other	9.7	9.7	9.7	9.7
Tot Non-Curr. Assets	59.2	148.3	198.1	196.8
Total Assets	96.3	200.2	268.0	328.9
Short Term Borrowings	-	-	-	-
Other	3.2	3.3	8.3	9.9
Total Curr. Liabilities	3.2	3.3	8.3	9.9
Long Term Borrowings	-	50.0	50.0	50.0
Other	2.0	2.0	2.0	2.0
Total Non-Curr. Liabil.	2.0	52.0	52.0	52.0
Total Liabilities	5.2	55.4	60.3	62.0
Net Assets	91.0	144.8	207.7	267.0
Net Debt (pre AASB16)	-35	0	-4	-63
Net Debt (post AASB16)	-34	1	-2	-62

Cashflow	30 Jun 23	30 Jun 24	30 Jun 25	30 Jun 26
Pro-forma EBITDA	-6.1	-5.9	71.9	84.1
Working Capital	-0.5	0.0	-9.2	-1.4
Cash retained in JV	0.0	0.0	0.0	0.0
Operating Cashflow	-6.6	-5.9	62.7	82.7
Income Tax Paid	0.0	0.0	0.0	-15.1
Interest & Other	0.9	-0.1	-0.9	-0.2
Operating Activities	-5.6	-6.0	61.7	67.4
Property, Plant & Equip.	-13.1	-94.2	-58.0	-8.1
Exploration and Devel.	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0
Investment Activities	-13.1	-94.2	-58.0	-8.1
Borrowings	0.0	50.0	0.0	0.0
Equity or "tbc capital"	0.0	65.0	0.0	0.0
Dividends Paid	0.0	0.0	0.0	0.0
Financing Activities	0.0	115.0	0.0	0.0
Net Cashflow	-18.8	14.8	3.7	59.2

Substantial S/holders	5.5%	Board
David Reed		Steven Cole NE Chair
		Chris Reed MD
		David Reed NE
		Douglas Ritchie NE
		Natalia Streltsova NE
		Jennifer Purdie NE
		Leslie Guthrie NE

LIB Production (100%)	Unit	Jun 23	Jun 24	Jun 25	Jun 26	Jun 27
Throughput	kt	-	-	13.69	18.25	18.25
- Production						
- Li Sulphate	kt	-	-	2.5	3.4	3.4
- Co Sulphate	kt	-	-	0.9	1.2	1.2
- Ni Sulphate	kt	-	-	7.6	10.1	10.1
- Copper	kt	-	-	1.4	1.9	1.9
Capex	A\$m	-20	-194	-114	0	0

Scandinavian Vanadium (100%)	Unit	Yr 0	Yr 1	Yr 2	Yr 3
V2O5	M lb		5.8	17.5	17.5
Cash Costs	US\$/lb		-6.2	-5.1	-5.1
Capex	A\$m	-244	-244	0	0

Barramie (100%)	Unit	Yr 0	Yr 1	Yr 2	Yr 3
Concentrate	Mt		0.9	0.9	0.9
Cash Costs	US\$/t		-149	-149	-149
Capex	A\$m	-225	-225	0	0

Price Assumptions	Unit	Jun 23	Jun 24	Jun 25	Jun 26	Jun 27
AUDUSD	US\$/A\$	0.66	0.71	0.73	0.74	0.74
Spodumene - Chemical (ie Battery)	US\$/t	5500	5000	5000	4250	3000
LiOH	US\$/t	70000	70000	70000	62500	47500
LC	US\$/t	70000	70000	70000	62500	47500
Nickel	US\$/lb	10.0	9.0	8.5	8.3	8.3
Copper	US\$/lb	4.0	4.1	4.0	3.8	3.8
Cobalt	US\$/lb	27	25	25	25	25
V2O5 - 98% China	US\$/lb	8.0	8.0	8.0	8.0	8.0
V2O5 - 99.5% Rotterdam	US\$/lb	9.6	9.6	9.6	9.6	9.6

Valuation	A\$m	A\$/shr
25% LIB ~20ktpa (pre-tax NPV@12%)	83	0.13
- Stage 1: Black Mass (25% shr capex A\$36m)	0	0.00
- Stage 2: Hydromet (25% shr capex A\$46m)	83	0.14
50% royalty for LIB ~180ktpa- forced (7% NSR, NPV@6%)	699	1.14
50% royalty for LIB ~20ktpa- eg Scandanavia (10% NSR, NPV@6%)	100	0.16
59% Vanadium Slag - Scandinavia (pre-tax NPV@12%)	113	0.18
100% Barramie - (pre-tax NPV@12%)	50	0.08
35% ELi Portugal (pos-tax NPV14%)	107	0.17
Other Assets/Exploration	20	0.03
Forwards	0	0.00
Corporate Overheads	-100	-0.16
Net Cash (Debt)	42	0.07
AASB16 Debt	0	0.00
Investments (mainly HNR.asx)	7	0.01
Tax (NPV future liability)	-305	-0.50
Options & Other Equity	0	0.00
Total	831	1.36

Source: Euroz Hartleys

Figure 2: Sales terms

1. **Contract Period** – 5 years from the date of first commercial scale production of DSO, encompassing a planned initial 12 months for sale and purchase of DSO and a subsequent planned 48 months for sale and purchase of MGC;
2. **Quantity** – minimum **DSO**: 1,000,000 wet tonnes, **MGC**: 800,000 wet tonnes per annum;
3. **Sales Terms** – **DSO**: actual delivered cost CIF China Main Port basis (including royalties) plus a fixed margin, **MGC**: derived from Australian Ilmenite concentrate, 55-58% TiO<sub>2</sub>, CIF China Main Port basis, multiplied by a payability factor, subject to a fixed floor price with annual upward only adjustments with reference to the greater of relevant CPI measure and a mechanism based on Australian gas, diesel and labour indices; and
4. **Payment Terms** – Payment for deliveries shall be made to ATi by draw down against a Letter of Credit with a bank or financial institution that has a branch located in Australia.

Source: NMT

Figure 3: Project to be phased

Table 15 – Barrambie Project Phasing Options

Phase	Product	Capex (A\$M)	Opex (\$A/t product) <sup>12</sup>
DSO	2.18 Mtpa DSO	88.0	110.7
MGC	1.23 Mtpa MGC	211.2	176.9
LTR	0.416 Mtpa ilmenite & 0.456 Mtpa iron-vanadium concentrate	432.1	237.4

Source: NMT

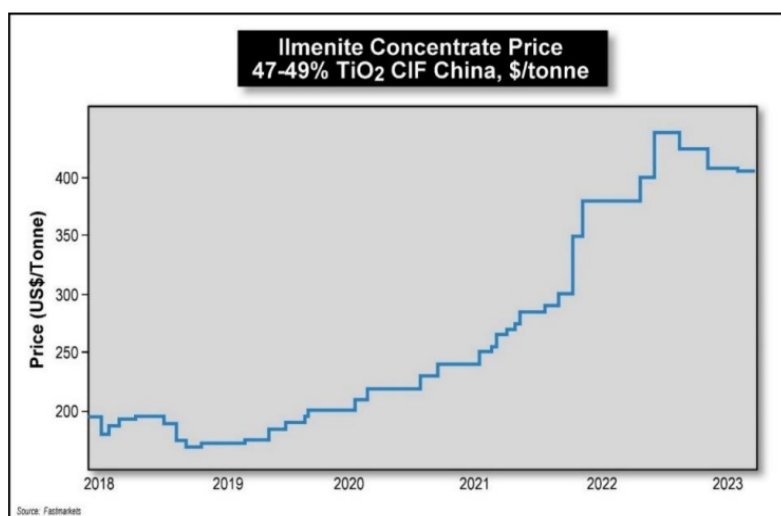
Figure 4: Recovery Assumptions

Table 7 – Mass Yield and Titanium Recoveries from Ore

	First 10 years		Processing Life (20.9 years)	
	Yield %	TiO <sub>2</sub> Recovery %	Yield %	TiO <sub>2</sub> Recovery %
MGC	54.2%	78.1%	49.3%	78.2%
Ilmenite (combined)	27.0%	60.1%	19.6%	53.9%
Iron-Vanadium Concentrate	18.8%	N/A	21.5%	N/A

Source: NMT

Figure 5: Ilmenite prices



Source: NMT

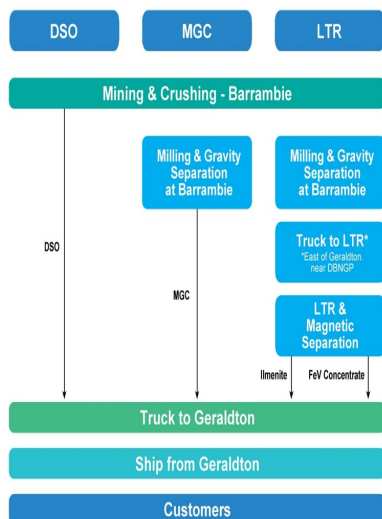
Figure 6: Barrambie PFS (2022) Summary. Now being updated.

Table 12 – Summary of Key Parameters

Summary of Key Parameters from PFS Financial Model		
Life of Processing (LOP)	Years	20.9
LOM Ore Mined	Mt	44.5
LOM Waste Mined	Mt	89.0
LOM Strip Ratio	(waste:ore)	2.0
Average CMB Plant Feed Rate	Mtpa	2.14
Average Titanium Head Grade	% TiO <sub>2</sub>	18.7
Average Titanium Recovery (Overall)	% TiO <sub>2</sub>	53.9
Average Combined Ilmenite Production (First 10 years)	Ktpa	579
Average Combined Ilmenite Production (LOM)	Ktpa	416
Average Iron-Vanadium Concentrate Production (LOM)	Ktpa	456
Realised Ilmenite Price	USD\$/t CIF China	400
Realised Middling Ilmenite Price	USD\$/t CIF China	300
Average Realised iron-vanadium concentrate Price	USD\$/t CIF China	85
Spot FX Rate <sup>7</sup>	AUD:USD	0.6419
Initial Capital Costs (including 25% contingency)	A\$M	432.1
Ave LOM Cash Operating Cost <sup>8</sup>	AUD\$/t product	191.1
LOM Free Cash Flow <sup>9</sup>	A\$M	1,665
Average Free Cash Flow per annum- first 10 yrs <sup>9</sup>	A\$M	136
<b>NPV (10% Discount Rate, Pre-Tax)</b>	<b>A\$M</b>	<b>391</b>
<b>IRR (Pre-Tax)</b>	<b>%</b>	<b>25</b>

Source: NMT

Figure 7: Products



Source: NMT

Figure 8: Product Specs

Table 1— Typical assay qualities of the various Barramie product options

	DSO	MGC	LTR Barramie Ilmenite	LTR Barramie Middling Ilmenite	LTR Barramie Fe / V Concentrate
Composition	1st 10 years	1st 10 years	Typical	Typical	Typical
TiO <sub>2</sub> (%)	23.2	33.4	52.0	48.0	13.0
V <sub>2</sub> O <sub>5</sub> (%)	0.6	0.7	0.40	0.6	1.58
Fe <sub>2</sub> O <sub>3</sub> (%)	44.2	60.6	47.0	50.0	84.2
SiO <sub>2</sub> (%)	15.7	2.65	2.0	2.5	2.6
Al <sub>2</sub> O <sub>3</sub> (%)	10.3	1.8	1.0	1.3	1.8

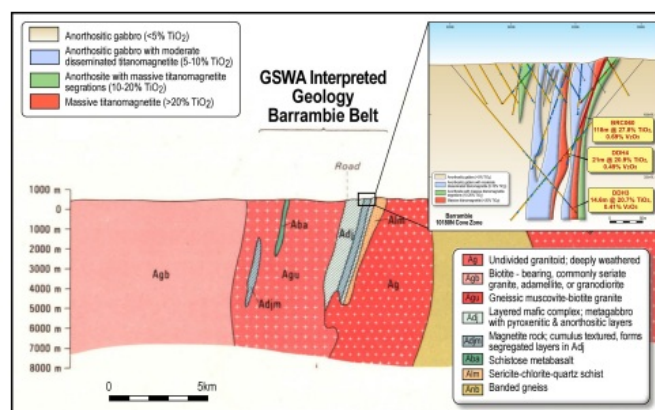
Source: NMT

Figure 9: Project Location



Source: NMT

Figure 10: Geology



Source: NMT

Figure 11: Resource and Reserve

## Mineral Resource and Ore Reserve Estimate

### Global Mineral Resource as at 17 April 2018<sup>1</sup>

	Tonnes (M)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)
Indicated	187.1	9.61	0.46
Inferred	93.0	8.31	0.40
<b>Total</b>	<b>280.1</b>	<b>9.18</b>	<b>0.44</b>

### High Grade V<sub>2</sub>O<sub>5</sub> Mineral Resource (at 0.5% V<sub>2</sub>O<sub>5</sub> cut-off)<sup>2</sup>

	Tonnes (M)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)
Indicated	49.0	16.93	0.82
Inferred	15.9	16.81	0.81
<b>Total</b>	<b>64.9</b>	<b>16.90</b>	<b>0.82</b>

### High TiO<sub>2</sub> Mineral Resource (14% TiO<sub>2</sub> cut-off)<sup>2</sup>

	Tonnes (M)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)
Indicated	39.3	21.18	0.65
Inferred	14.3	21.15	0.58
<b>Total</b>	<b>53.6</b>	<b>21.17</b>	<b>0.63</b>

(1) Based on Cut-off grades of ≥10% TiO<sub>2</sub> or ≥0.2% V<sub>2</sub>O<sub>5</sub>

(2) The high-grade titanium and vanadium figures are a sub-set of the total Mineral Resource. These figures are not additive and are reporting the same block model volume but using different cut-off grades

\*For full details refer to Neometals ASX release dated 17th April 2018 titled "Updated Barrambie Mineral Resource Estimate"

### Barrambie Titanium Ore Reserve Estimate - November 2022<sup>\*\*</sup>

Ore Reserve Category	Ore Tonnes (Mt)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)
<b>Probable</b>	<b>44.5</b>	<b>18.7</b>	<b>0.61</b>	<b>44.1</b>

Cut-off is based on net value (revenue minus selling, processing, administration and incremental ore mining costs) >\$0t on a diluted block-by-block basis from the parameters used in the pit optimisation. Ore Reserves reported are within the Mineral Resource estimates. This relates roughly to a 10% TiO<sub>2</sub> cut-off.

\*\*For full details refer to Neometals ASX release dated 17th November 2022 titled "Robust Outcomes From Barrambie Titanium Project PFS"

Source: NMT

Figure 12: Resource in detail - the Central vs Eastern

Table 2 – Barrambie Project Mineral Resource Estimate as at April 2018<sup>1,2</sup>

Classification	Domain	Oxidation	Tonnes Mt	TiO <sub>2</sub> %	V <sub>2</sub> O <sub>5</sub> %
Indicated	Central	Strongly oxidised	112.6	6.71	0.44
		Weakly oxidised	28.1	7.21	0.47
		Fresh	6.8	6.47	0.40
	Central sub-total		147.5	6.80	0.45
	Eastern	Strongly oxidised	26.4	19.68	0.50
		Weakly oxidised	10.0	21.45	0.56
		Fresh	3.2	19.14	0.47
	Eastern sub-total		39.6	20.09	0.51
	Indicated Total		187.1	9.61	0.46
Inferred	Central	Strongly oxidised	16.0	5.32	0.39
		Weakly oxidised	18.3	6.02	0.41
		Fresh	38.8	5.76	0.38
	Central sub-total		73.1	5.73	0.39
	Eastern	Strongly oxidised	6.5	15.19	0.36
		Weakly oxidised	5.1	18.80	0.47
		Fresh	8.3	19.18	0.45
	Eastern sub-total		19.9	17.78	0.42
	Inferred Total		93.0	8.31	0.40
Grand Total		280.1	9.18	0.44	

1. Reporting criteria:  $\geq 10\%$  TiO<sub>2</sub> or  $\geq 0.2\%$  V<sub>2</sub>O<sub>5</sub>; small discrepancies may occur due to rounding

2. Mineral Resources reported are inclusive of Ore Reserves

Source: NMT

Figure 13: Resource in detail - the Central vs Eastern

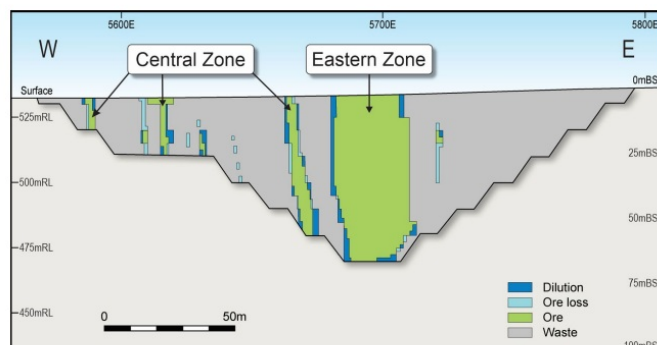


Figure 5 – Section showing Dilution and Ore Loss (12,060m N local grid) within the pit-shell

Source: NMT

Figure 14: Barrambie Titanium Mine Catalysts

Next steps for Neometals include:

- Update Primero Pre-feasibility Study for a standalone DSO/MGC operation;
- Execute formal Offtake Agreement which is consistent with the Term Sheet;
- Complete strategic review to maximise and deliver shareholder value for Barrambie;
- Complete variability test work and early start options for DSO; and
- Commence Feasibility Study on construction of a Beneficiation Plant to produce MGC.

Source: NMT

Figure 15: Our price target is \$2.00 (unchanged from previous)

Price Target Methodology	Weighting	Spot	12 mth out
NPV base case	30%	\$1.36	\$1.50
1.5x NAV	40%	\$2.03	\$2.25
NPV at spot commodity and fx prices	25%	\$2.27	\$2.57
NPV6	1%	\$1.68	\$1.94
Grossed up dividend yield of 9.7%	1%	\$0.00	\$0.00
Net cash	4%	\$0.08	\$0.06
<b>Risk weighted composite</b>		<b>\$1.79</b>	
<b>12 Months Price Target</b>		<b>\$2.00</b>	
Shareprice - Last		\$0.595	
<b>12 mth total return (% to 12mth target + dividend)</b>		<b>235.9%</b>	

Source: Euroz Hartleys

## Company disclosures

The companies and securities mentioned in this report, include:

Neometals Limited (NMT.ASX) | Price A\$0.59 | Target price A\$2.00 | Recommendation Buy;

*Price, target price and rating as at 21 April 2023 (\* not covered)*

## Additional disclosures

The analyst declares that they have a beneficial interest in: Neometals Limited (NMT.ASX)

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