



NMT: EV battery recycling

NMT.ASX | NEOMETALS LIMITED | MATERIALS | RECYCLING

PRICE
A\$0.14/sh

TARGET PRICE
A\$0.45/sh
(FROM A\$0.58/sh)

RECOMMENDATION
SPECULATIVE BUY
(UNCHANGED)

ANALYST
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NMT is building a lithium battery recycling business in partnership with SMS Group in Germany. The JV (called Primobius) has an advanced technology process, and the significant R&D means it can guarantee recycling performance for customers to meet the EU high standards. The planned business model allows customers keep control of their raw materials, thereby significantly reducing long term commodity supply risk and making recycling commercially attractive. NMT will earn a royalty, and hence capital requirements are minimal.

Revenue royalty model

NMT/SMS (Primobius) is unique in offering customers a solution for lowest cost raw materials, and very high guaranteed recovery rates, in exchange for a royalty. Competitor offerings imply selling the raw materials back to the customer, leaving the customer with worse recycling economics. Based on a 10% revenue royalty, we calculate ~US\$6m of EBIT net to NMT for every ~20ktpa of installed hub & spoke capacity.

Figure 1: Speculative NMT valuation of royalty per share

Discounted value (at 10% pa)						
Royalty Rate		20kt pa	100kt pa	200kt pa	1mtpa	5mtpa
		31-Dec-27	31-Dec-28	31-Dec-31	31-Dec-40	31-Dec-50
1.0%		\$0.00/shr	\$0.05/shr	\$0.05/shr	\$0.10/shr	\$0.20/shr
2.5%		\$0.00/shr	\$0.05/shr	\$0.15/shr	\$0.25/shr	\$0.50/shr
5.0%		\$0.05/shr	\$0.15/shr	\$0.25/shr	\$0.50/shr	\$1.00/shr
7.5%		\$0.05/shr	\$0.25/shr	\$0.35/shr	\$0.75/shr	\$1.45/shr
10.0%		\$0.10/shr	\$0.30/shr	\$0.50/shr	\$1.00/shr	\$1.95/shr
12.0%		\$0.10/shr	\$0.40/shr	\$0.55/shr	\$1.20/shr	\$2.35/shr

Source: Euroz Hartleys.

Reminder on integrated plants - customer economics are good

The August 2023 study estimated that every 21ktpa greenfield plant capex is ~Euro377m and EBITDA in order Eur80m pa for the plant owner. The hub & spoke design produces 9.3ktpa of nickel sulphate hexahydrate, 4.3ktpa of cobalt sulphate heptahydrate and 1.6ktpa of lithium fluoride crystals (LiBelectrolyte feedstock) and a range of other metal and by-products from a LiB feed with NMC622 chemistry.

Speculative Buy recommendation

We have a Speculative Buy recommendation. There is significant upside should the technology have meaningful adoption. The company is capitalised for the next 18mths.

Catalysts

- Mercedes-Benz 2.5ktpa commission - 1H CY25
- First order for 20ktpa commercial plant - CY25
- DFS level study on very large 200ktpa plant - 2HCY25

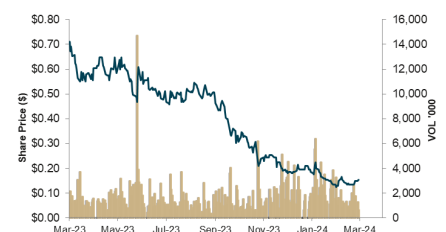
Share Price	0.145	A\$/sh
Price Target	0.45	A\$/sh

Shares on issue	626	m, dil
Market Capitalisation	90.8	A\$m
Enterprise Value	71.3	A\$m
Cash (31 Dec 23a)	19.5	A\$m
Debt (31 Dec 23a)	-	A\$m

Board

Steven Cole	NE Ch
Chris Reed	MD
Douglas Ritchie	NE
Natalia Streltsova	NE
Jennifer Purdie	NE
Leslie Guthrie	NE

Performance



Source: IRESS

Figure 2: Study Outcomes

Table 1: Key Hub and Spoke ECS Metrics

Metrics	Shredding Spoke	Refining Hub
Hub Annual Throughput / Capacity	21,000tpa	12,000tpa Black Mass ⁶ feed
Hub Annual Production ⁷ : Hydrated nickel sulphate: NiSO ₄ .6H ₂ O(s) Hydrated cobalt sulphate: CoSO ₄ .7H ₂ O(s) Lithium fluoride: LiF(s) Manganese sulphate: 32% w/w MnSO ₄ (aq) Copper metal/cathode Ammonium sulphate: (NH ₄) ₂ SO ₄ (s)	12,000tpa Black Mass	9,300tpa 4,300tpa 1,600tpa 7,000tpa (liquid) 40tpa 23,400tpa
Capital Cost (including 20% Contingency for Spoke and 15% Contingency for Hub) ⁸	€102.5M ⁹ (US\$113.5M) ⁹	€275M (US\$303M)
Annual Operating Costs	€27.1M (US\$30M)	€56M (US\$61M)
Unit Operating Costs	€1,292 ⁹ (US\$1,430) ⁹	€2,644/tpa (US\$2,926/tpa) of LiB fed into a matching Primobius Spoke
Workforce	239	82

Source: NMT

Figure 3: Mercedes-Benz ultimate demand is equivalent to fifty ~20ktpa plants

Mercedes-Benz: Strong Validation from a Marquee OEM

PLANT SUPPLY, R&D TECHNOLOGY LICENSE, COLLABORATION



Mercedes-Benz



Cooperation agreement with Mercedes-Benz

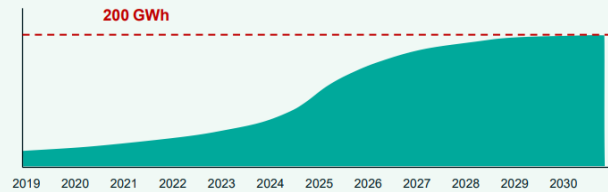
- Primobius to supply/install/commission equipment for MB's 2,500tpa Integrated Recycling Plant in Kuppenheim, Germany (building above) on royalty-free basis
- Long-term research collaboration to recycle next generation cell formats and chemistries

⁶For further information, refer to ASX release dated 13 May 2022 – "Primobius executes Co-operation Agreement with Mercedes-Benz"

⁷Source: Mercedes-Benz Strategy Update: electric drive, July 2021

Source:

MERCEDES-BENZ TARGET CELL PRODUCTION**



Key Illustrative Assumptions

- ~10-year battery life
- ~4.5MWh to tonne of battery

POTENTIAL MERCEDES-BENZ EOL LIB RECYCLING REQUIREMENTS BY 2040



900ktpa of batteries

Potential EOL recycling requirement by 2040 with additional volumes potentially available from production scrap



5 x 200,000tpa Plants

Required to process*

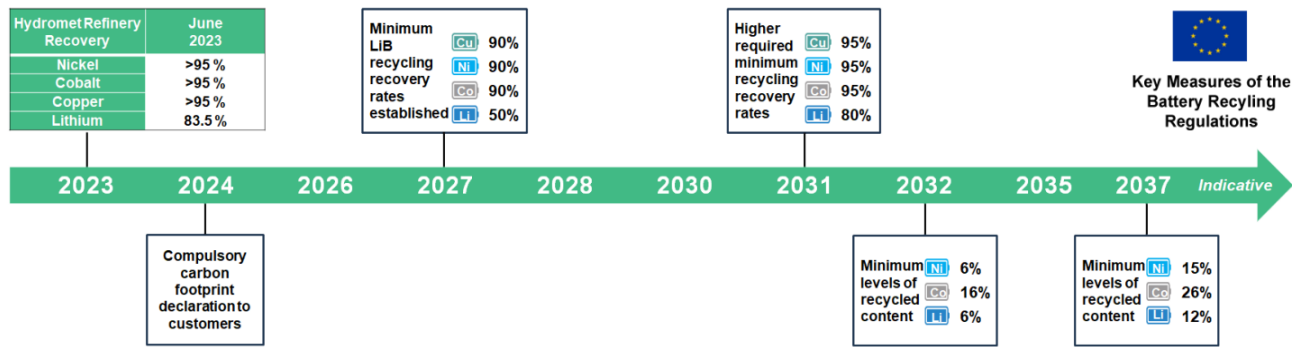
*Based on Neometals assumptions.

Figure 4: EU regulations

We Allow OEMs to Meet EU Battery Regulations

- Primobius exceeds minimum recycling recovery rates
- Primobius enables minimum recycled content to be met

Primobius



European regulations are pushing the responsibility to “close the loop” to the OEMs

Terminology: Electric Vehicles (EV) | Light Means of Transport (LMT) batteries providing power for the traction to wheeled vehicles such as electric scooters and bikes, with a capacity above 2 kWh | Portable (Consumers can easily remove and replace batteries themselves)

Source: European Commission, FCAB

Source: HNR

Figure 5: Price target scenarios

Price Target Methodology	Weighting	Spot	12 mth out
10% royalty, 1 plant (20ktpa, CY28)	15%	\$0.10	\$0.11
10% royalty, 10 plants (200ktpa, CY31)	60%	\$0.50	\$0.55
7.5% royalty, 50 plants (1mtpa, CY40)	5%	\$0.75	\$0.83
5% royalty, 250 plants (5mtpa, CY50)	5%	\$1.00	\$1.10
Net cash	15%	\$0.03	\$0.02
Risk weighted composite		\$0.41	
12 Months Price Target		\$0.45	
Shareprice - Last		\$0.145	
12 mth total return (% to 12mth target + dividend)		207.0%	

Source: Euroz Hartleys

Figure 6: Royalty model

US\$m pa potential royalty revenue (net share to NMT)						
Royalty Rate		<u>20kt pa</u>	<u>100kt pa</u>	<u>200kt pa</u>	<u>1mtpa</u>	<u>5mtpa</u>
		31-Dec-27	31-Dec-28	31-Dec-31	31-Dec-40	31-Dec-50
1.0%		US\$1m pa	US\$3m pa	US\$6m pa	US\$31m pa	US\$154m pa
2.5%		US\$2m pa	US\$8m pa	US\$15m pa	US\$77m pa	US\$385m pa
5.0%		US\$3m pa	US\$15m pa	US\$31m pa	US\$154m pa	US\$771m pa
7.5%		US\$5m pa	US\$23m pa	US\$46m pa	US\$231m pa	US\$1156m pa
10.0%		US\$6m pa	US\$31m pa	US\$62m pa	US\$308m pa	US\$1541m pa
12.0%		US\$7m pa	US\$37m pa	US\$74m pa	US\$370m pa	US\$1850m pa

Implied A\$ value per share at 20x p/e - undiscounted						
Royalty Rate		<u>20kt pa</u>	<u>100kt pa</u>	<u>200kt pa</u>	<u>1mtpa</u>	<u>5mtpa</u>
		31-Dec-27	31-Dec-28	31-Dec-31	31-Dec-40	31-Dec-50
1.0%		\$0.00/shr	\$0.05/shr	\$0.10/shr	\$0.45/shr	\$2.35/shr
2.5%		\$0.00/shr	\$0.10/shr	\$0.25/shr	\$1.15/shr	\$5.85/shr
5.0%		\$0.05/shr	\$0.25/shr	\$0.45/shr	\$2.35/shr	\$11.70/shr
7.5%		\$0.05/shr	\$0.35/shr	\$0.70/shr	\$3.50/shr	\$17.55/shr
10.0%		\$0.10/shr	\$0.45/shr	\$0.95/shr	\$4.70/shr	\$23.45/shr
12.0%		\$0.10/shr	\$0.55/shr	\$1.10/shr	\$5.60/shr	\$28.10/shr

Discounted value (at 10% pa)						
Royalty Rate		<u>20kt pa</u>	<u>100kt pa</u>	<u>200kt pa</u>	<u>1mtpa</u>	<u>5mtpa</u>
		31-Dec-27	31-Dec-28	31-Dec-31	31-Dec-40	31-Dec-50
1.0%		\$0.00/shr	\$0.05/shr	\$0.05/shr	\$0.10/shr	\$0.20/shr
2.5%		\$0.00/shr	\$0.05/shr	\$0.15/shr	\$0.25/shr	\$0.50/shr
5.0%		\$0.05/shr	\$0.15/shr	\$0.25/shr	\$0.50/shr	\$1.00/shr
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Source: Euroz Hartleys

Figure 7: Mercedes Benz Recycling



Source: https://www.linkedin.com/posts/mercedes-benz_ag_sustainability-batteryrecycling-mercedesbenz-activity-7127324217208954880-kAHq?utm_source=share&utm_medium=member_desktop

Company disclosures

The companies and securities mentioned in this report, include:

Neometals Limited (NMT.ASX) | Price A\$0.14 | Target price A\$0.45 | Recommendation Speculative Buy;

Price, target price and rating as at 06 March 2024 (not covered)*

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