

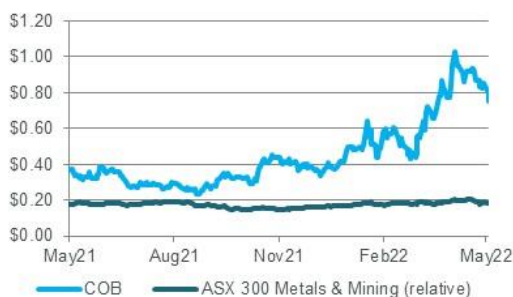
# COBALT BLUE HOLDINGS LIMITED (COB)

## UPDATE: ETHICAL COBALT – DEMONSTRATION PLANT

Analyst Carlos Crowley Vazquez  
Email carloscrowley@boeq.com.au  
Phone 02 8072 2909  
Date 25 May 2022

**BUY** Share Price **\$0.81** Target Price **\$1.45**

### SHARE PRICE CHART



### COMPANY DATA & RATIOS

#### Stock Details

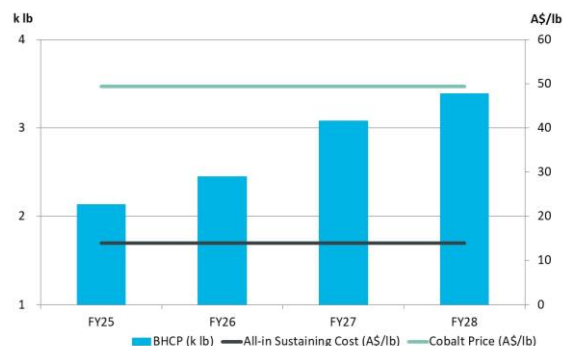
Share Price	\$0.81
Target Price	\$1.45
Implied Return	80%
Enterprise Value	\$231m
Diluted MCap	\$261m
Diluted Shares	325
Free Float	100%
Avg Daily Value	\$0.90m
GICS sector	Metals & Mining
Commodities	Cobalt & Sulphur

#### Major Shareholders

No Substantial Shareholders

Board & Management < 5%

### PRODUCTION & COST PROFILE



### ETHICAL COBALT, GLOBALLY SIGNIFICANT PROJECT

The Broken Hill Cobalt Project (BHCP) is the largest ex-Africa, undeveloped primary cobalt sulphide deposit and could elevate Australia to #3 global producer of cobalt (behind DRC and Indonesia). Located in a politically stable jurisdiction, within an established mining district and near existing infrastructure, BHCP targets production of ethical, high grade, battery ready cobalt sulphate for EVs. It will be the only integrated cobalt mine and refinery in Australia and one of very few refiners outside of China. Commercial partners include LG Corporation and Mitsubishi Corporation. Following from its successful Production Pilot, COB is building a Demonstration Plant to establish consistency and repeatability of production within specifications over a 20-week period. This key milestone will support finalisation of a DFS, long-term offtake agreements and project finance. BHCP has also been granted Major Project Status by the Australian Government and has received a \$15m grant due to its close alignment with Australia's Critical Minerals Strategy.

### EV GROWTH, RANGE ANXIETY OUTPACE THRIFTING

Cobalt is a key input for EVs due to the dominance of Nickel-Cobalt cathodes within lithium-ion batteries. A 60 kWh LIB for an "entry level" EV contains 4.3% cobalt, representing 8kgs of cobalt per EV. The penetration of EVs (currently 12%, +10m EVs) is expected to accelerate (35% by 2030, +37m EVs), which combined with key requirements around performance and driving range of EVs point towards the continued dominance of the Ni-Co chemistry for LIBs. The total growth in EVs more than compensates for the trend to reduce the amount of cobalt per battery. The structure of the cobalt supply curve combined with demand growth results in a strong price outlook, including supply/demand deficits from 2024.

### ATTRACTIVE ECONOMICS, STRATEGIC ASSET

BHCP has the lowest capital intensity among undeveloped cobalt projects and is expected to operate in the lowest cost quartile. The misallocation of capital in the EV supply chain (investment in Gigafactories not matched with investment in upstream production of key minerals) is driving deficits across key LIB materials. COB's integrated refinery model will deliver an intermediate MHP, which can be further refined into battery grade cobalt sulphate, as cobalt deficits grow. We believe that COB's wide open shareholder register, combined with BHCP's attractive cost structure, ESG credentials and IP will attract interest from strategic partners and could potentially result in offers for control.

### UPGRADED PRICE TARGET \$1.45

Blue Ocean Equities initiated coverage on COB in March 2021 (Price Target of A\$0.75, see [COB Initiation](#)). Our investment thesis remains fundamentally unchanged and is supported by the Pilot Plant results and current Demonstration Plant. Combined with favourable industry dynamics, we have increased our target price to \$1.45, reflecting an implied return of 80%.

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## INVESTMENT THESIS

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### MACRO: A STRONG OUTLOOK FOR COBALT, STRONGER FOR “ETHICAL” COBALT

- +\$500 billion have been invested over the last few years on planning and construction of over 300 Gigafactories globally, while less than 1/10<sup>th</sup> has been invested in developing new supply of key EV minerals to support production of batteries and EVs at such scale.
- Benchmark Mineral Economics forecast indicates that cobalt supply will be in a deficit of over 75,000 tonnes by the end of the decade – this figure represents over 50% of current supply!
- Roskill/Wood Mackenzie’s forecast indicates that cobalt demand would more than double by 2030, with a deficit potentially over 80,000 tonnes.
- CRU forecasts steady and strong cobalt prices over the medium term with deficits re-emerging from 2024. In addition, demand grow at 12% p.a. vs supply growth at 8% p.a. point towards a stronger pricing environment required to prevent material deficits from developing.
- Fastmarkets notes that high cobalt prices, along with other EV raw materials, are already having an impact on the potential “unconstrained” demand for EVs.
- This misallocation of capital has been magnified by the relatively long timeframe required to bring new projects into production (including product certification within LIB/EV supply chains) and is resulting in emerging demand/supply deficits across key EV minerals, including cobalt.
- LIB manufacturers are already looking to fill larger (i.e. Gigafactory quantities) orders for cobalt products – BHCP, a Top 5 cobalt project (ex Africa), can only supply 50% of a single 40 GWh facility – and seek to engage in longer duration offtake to support EV production, typically up to 7–8 year duration.
- Furthermore, cobalt’s concentration in DRC, Russia, Indonesia and other “high risk” and environmentally sensitive jurisdictions will continue to pose serious ESG, supply security and supply chain traceability issues to OEMs.
- Non-African, sustainably sourced cobalt is becoming a premium material as EV manufacturers react to their consumer and legislative requirements and seek to influence upstream sourcing.
- Australia has >16% of global cobalt resources but produces only 4% of supply.

### STOCK SPECIFIC: WHY COBALT BLUE?

Cobalt Blue Holdings Limited (Cobalt Blue or the Company) (ASX:COB) is a ~A\$260m market cap cobalt developer through its flagship 100%-owned Broken Hill Cobalt Project (BHCP) located 23km west of Broken Hill in NSW, Australia. At the end of March 2022, Cobalt Blue had A\$12.4m in cash, A\$3m in debt and A\$7.8m from “in the money” options. In addition, in April 2022 COB secured a \$15m grant from the Australian Government that can be used towards de-risking BHCP.

Our investment thesis for COB remains fundamentally unchanged, key highlights include:

- **Large-scale, low-cost ethically derived cobalt:** COB’s 100%-owned BHCP is one of very few cobalt projects globally that is *not* located in the DRC (~70% of supply) and is *not* a HPAL operation (~25% of supply). With forecast cobalt production of ~3.55ktpa at an all-in-sustaining cost of ~US\$12-13/lb (under US\$10/lb including nickel credits) for at least 17 years, the BHCP represents a potential large-scale, low-cost source of ethically sourced

cobalt. BHCP is on track to become one of the largest global integrated cobalt mine/refinery projects ex-Africa and is therefore becoming a strategic asset to a range of potential users.

- **Superior capital intensity:** Outside the DRC, cobalt is significantly less abundant than most other battery metals. However, the majority of large-scale cobalt sources outside the DRC are nickel/cobalt laterite projects which normally require High Pressure Acid Leaching (HPAL). HPAL operations liberate the cobalt (and nickel) using high pressure at high temperature in a highly acidic environment. COB's proprietary process liberates cobalt at low pressure and low temperature (the opposite of HPAL). As a result, most of COB's peers outside the DRC require 3-4x the upfront capex per unit cobalt produced. In our view, for end users looking to secure cobalt, COB represents a more attractive option than most peers.
- **Flexible production strategy:** The BHCP is being designed to produce an intermediate Mixed Hydroxide Product (MHP) and final (battery ready) cobalt sulphate. This allows COB to sell product based on market price of the day and take advantage of either higher price intermediate or end products. Interestingly, over 90% of cobalt samples (as requested by partners) despatched from the BHCP pilot plant in 2021 were in MHP form.
- **Best-in-class cobalt leverage with over 80% of revenue from cobalt:** The vast majority of the world's cobalt supply is a by-product credit from copper mines (~60%) or nickel mines (~30%). As a result, most listed cobalt exposures have cobalt as a credit rather than direct cobalt revenue. The BHCP is expected to generate 80-85% of its revenue from cobalt, giving COB superior leverage to rising cobalt prices than most peers. The remainder will be derived from domestic elemental sulphur sales.
- **Significant exploration upside:** The BHCP has considerable geological upside to expand resources either extending life or providing growth options.
- **Potential for additional revenue streams by leveraging proprietary processing technology:** COB has developed its own patented processing technology to extract cobalt from cobalt-bearing pyrite and hopes to leverage this technology into other projects to create additional revenue streams. In our view, this is a very exciting component of Cobalt Blue's business model. Once BHCP is in production, we expect COB's IP to materially increase in value by unlocking a range of "stranded assets".
- **Major Project Status Granted and Federal Funding Underway:** Cobalt Blue has been granted Major Project Status by the Government to support the project through its development phase ([COB MPS](#)). In addition, the Federal Government has awarded a \$15m grant through the Critical Minerals Accelerator Initiative assist in getting the project to an "Execution Ready Status" and reduce implementation risks by expanding the scope of the DFS ([COB Grant](#)).
- **Catalyst Rich:** Cobalt Blue is approaching a defining moment from a de-risking perspective through its Demonstration Plant to prove at a commercial scale continuous and consistent production of cobalt within specification. This key milestone is expected to crystallise offtake agreements, potential partner negotiations, finalisation of DFS and ultimately development financing for the BHCP.
- **Experienced Board & Management Team:** In our view, Cobalt Blue has a strong board and management team with the right mix of experience to bring the BHCP into production. We have provided a detailed summary of bios on p24.



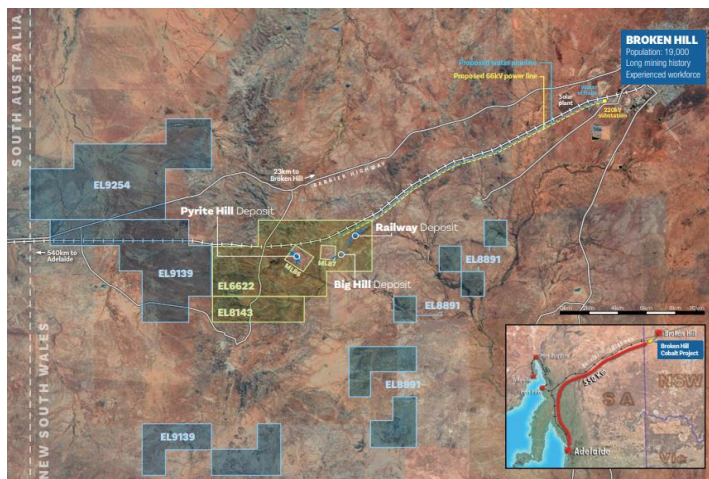
## UPDATE - BROKEN HILL COBALT PROJECT

### PROJECT OVERVIEW

Cobalt Blue's 100%-owned BHCP is located ~23km west of Broken Hill in NSW. It is located in close proximity to readily accessible power, water, rail and skilled labour – all key advantages reflected in its leading capital intensity.

The BHCP comprises six granted tenements for a total area of approximately 160km<sup>2</sup> which is dissected by the Broken Hill to Port Pirie railway. The main targets for development are the large tonnage cobalt-bearing pyrite deposits, Pyrite Hill, Big Hill and Railway.

#### Location of the Broken Hill Cobalt Project



Source: Company

It is located within the Broken Hill Block of the Curnamona Province and is composed of Willyama Supergroup high grade regional metamorphic gneisses, schists and amphibolites. The local geology is dominated within the project area by quartz-albite-biotite gneiss, quartz-albite gneiss and amphibolite dykes. The extensive stratabound cobalt-pyrite mineralisation at each deposit is hosted by quartz-albite gneiss. A unique mineralogical composition distinguishes the Broken Hill Cobalt Project deposits from the Nickel-Cobalt laterite, Nickel-Copper and Copper-Cobalt sulphide deposits, which account for some 98% of global cobalt production.

The BHCP deposits are characterised by moderate to steep dipping stratabound zones of disseminated to semi-massive cobaltiferous pyrite mineralisation. This forms 3 distinct bodies known as Pyrite Hill, Big Hill, and Railway. The deposits extend over some 5 km of strike and vary in thickness from 10 to 300m. The cobalt occurs exclusively as a substitute within the pyrite crystal lattice, and consequently, there is a strong correlation between pyrite content and cobalt grade. Mining will be done via a multi-pit operation extracting ore using conventional drill and blast, load, haul and dump processes.

The three deposits are located near surface with the mineral resource estimate extending from the base of partial oxidation (located 20, 35 and 15m, respectively below surface) and extending several hundred meters down dip.

The BHCP reserve and resource support a mine life of +17 years at 3.5ktpa of saleable MHP.

**Resource & Reserve**

BHCP	Tonnes	Grade	Cobalt
Resource	mt	ppm	kt
Measured	18	1,030	18.3
Indicated	59	631	37.1
Inferred	41	619	25.6
<b>Total</b>	<b>118</b>	<b>687</b>	<b>81.1</b>

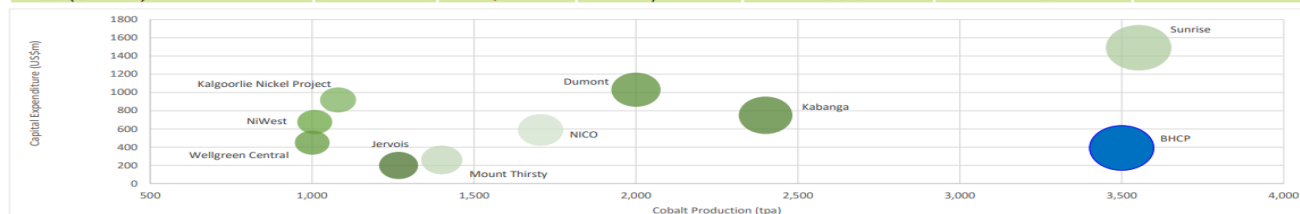
Reserve	mt	ppm	kt
Probable	71.8	710	51.0

Source: Company

BHCP is a leading, non-African cobalt project by capital intensity, opex and has sufficient scale to be globally significant. Outside of the DRC, cobalt is significantly less abundant than most other battery metals. The majority of large-scale cobalt sources outside the DRC are nickel/cobalt laterite projects which typically require High Pressure Acid Leaching (HPAL). HPAL operations liberate the cobalt (and nickel) using high pressure at high temperature, in a highly acidic environment. Therefore, most COB's peers (ex DRC) require 3-4x the upfront capex per unit of cobalt produced.

**Leading capital intensity per unit cobalt production**

Project	US\$ Capex	Cobalt (tpa)	By-products	Cobalt Payable (% LME)	Mine Life (years)	Capital Intensity (US\$/ktpa Co)
BHCP (Aust)	392	3,500	Sulphur	100%	17	112
Jervois (USA)	200	1,267	Cu / Au	100%	13	158
Mount Thirsty (Aust)	260	1,400	Ni	80%	12	186
Kabanga (Tanzania)	750	2,400	Ni	Low	20	313
Kalgoorlie Nickel Project (Aust)	918	2,150	Nickel	100%	>25	427
Sunrise (Syerston) (Aust)	1490	3,552	Ni/Sc	100%	> 25	420
Wellgreen Central (Canada)	450	1,000	Ni/Cu	Low	20	450
NiWest (Aust)	676	1,008	Nickel	100%	> 25	671
Dumont (Canada)	1030	2,000	Ni/Pt	Low	20	515
NICO (Canada)	589	1,705	Bi/Au	100%	> 20	346



Source: Company

**Global significance, ex-DRC**
**Cobalt Prod by Region**

DRC	109
Other Africa	6
Asia	15
Americas	7
Europe	5
Oceania	9
<b>Total</b>	<b>151</b>

**Cobalt Supply ex DRC**

	2021	2030
China	6.9	5.5
Indonesia	4.8	15.4
Australia	4.8	8.6
Cuba	4.0	4.0
Philippines	3.7	4.2
Canada	2.6	4.3
Russia	2.4	3.5
Finland	2.1	2.2
Madagascar	1.6	3.2
Zambia	1.6	4.3
Morocco	1.6	1.6
New Caledonia	1.1	2.2
South Africa	0.7	0.7
Others	1.2	2.0
<b>Total</b>	<b>39</b>	<b>62</b>

**Cobalt Prod by Operation, ex-DRC (2026)**

Weda Bay (Indo)	7.5
Morowali - QMB (Indo)	4.5
Morowali - Huayue (Indo)	4.4
Obi (Indo)	4.0
Ambatovy (Madagascar)	4.0
Pedro Sotro Alba (Cuba)	3.9
Murrin Murrin (Aust)	3.5
<b>BHCP</b>	<b>3.5</b>
Sunrise (Aust)	3.2
Ramu (PNG)	2.9
Taganito (Philippines)	2.4
Goro (New Caledonia)	2.2
Talvivaara (Finland)	1.1
Harjavalta (Finland)	1.1

Source: Company

## UPDATED DEVELOPMENT TIMELINE

The figure overleaf outlines the updated development timetable for the BHCP. In 2021, Cobalt Blue successfully completed Stage 1 of its Feasibility Study following finalisation of a Pilot Plant - it used 90 tonnes of material from previous drilling campaigns to produce high quality samples (with 35%-41% Cobalt and 3%-10% Nickel). These samples were distributed for testing to over 30 potential customers. The samples surpassed the industry's benchmark (+30% Co) and the Pilot Plant confirmed COB's process is capable of customising product specifications within this range.

Following from the Pilot Plant's success, which included positive feedback from its samples, the test results were used to inform the design of a larger Demonstration Plant - currently under construction. The Demonstration Plant represents a fundamental de-risking milestone as it is expected to prove to third parties, including potential customers and financiers, that the process can operate at steady state, over a period of 20 weeks, and produce MHP, cobalt sulphate and elemental sulphur consistently and repeatedly within specification.

The outcome of the Demonstration Plant represents a key de-risking milestone. Samples from the Demonstration Plant are expected to transform Cobalt Blue into a "qualified supplier" for a range of potential customers including LG – potentially culminating in commercial offtake agreement with the world's 2<sup>nd</sup> largest LIB manufacturer. These results will also inform the Definitive Feasibility Study and are expected to support development financing.

From a financing and strategic perspective, in April 2021, Cobalt Blue appointed Cutfield Freeman & Co as strategic financial advisor to identify the most suitable financiers and facilities. We understand conditional support, subject to results from the Demonstration Plant and other key milestones such as offtakes, is being sought from EFA, Clean Energy Finance Corporation and other government credit agencies.

Following completion of the DFS and financing, we expect a Final Investment Decision by mid CY23 followed by a 18-24 month construction and commissioning period.

### The Broken Hill Cobalt Project development timeline

	PRE - 2021	2021	2022	2023	2024	2025
<b>Broken Hill</b> Cobalt Project						
Business Achievements	100% Project Ownership CRC-P Grant	Global Cobalt Sample Program Major Project Status and CMAI grant	Offtake Cobalt Qualification Program – 2022 Major Project Status and CMAI grant	Final Investment Decision	Construction Period Mine Development EPC Renewable Power Contracts	Refinery Commissioning First Commercial Production
Technical Studies	Project Update 2020 PFS 2018	Feasibility Study	Feasibility Study	Definitive Feasibility Study and Approvals		
Process Testing	Pilot Scale Testwork	Pilot Plant – 30 Tier 1 Partners Offtake Contract Negotiations (begin)	Larger scale (24/7) Operations Commercial Qualification Samples Bulk Sample			First On Specification Production
Environmental Approvals		EIS Field Studies	EIS Field Studies	EIS Submission SSD Determination	ESG/CO <sub>2</sub> Reporting	ESG/CO <sub>2</sub> Reporting Operating Permits (approved)
	PRE - 2022		MILESTONES			

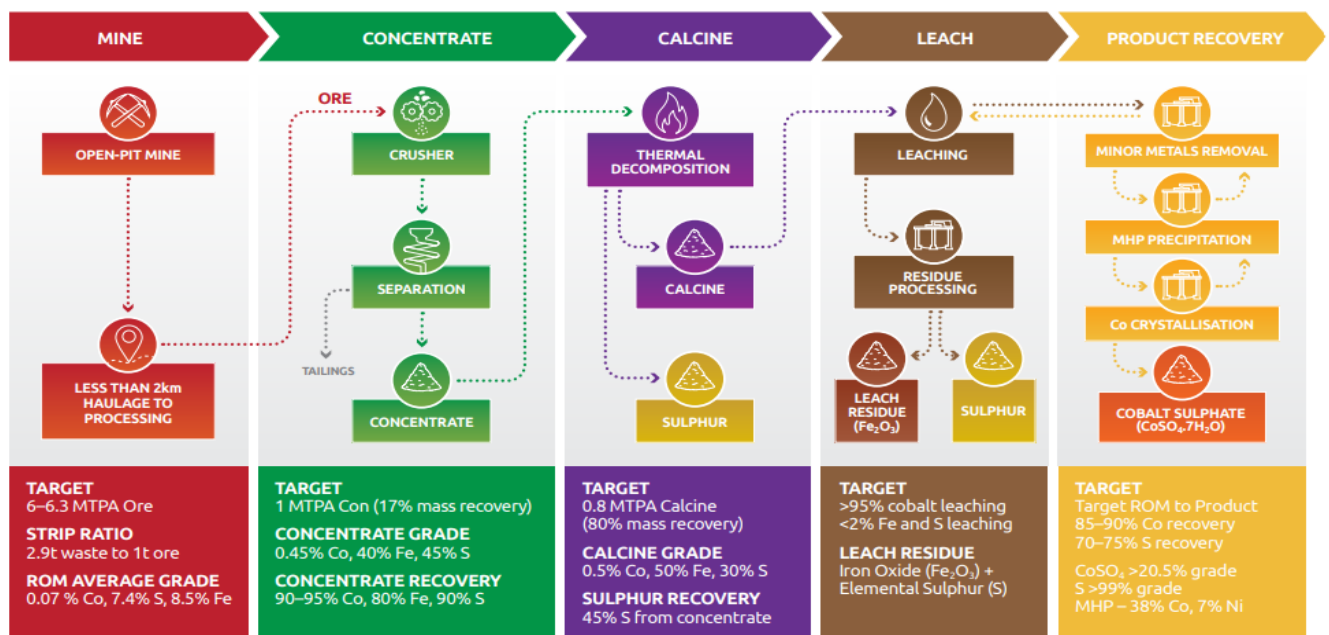
Source: Company

## DEMONSTRATION PLANT – NO SHORTCUTS TO ACCESS LIB SUPPLY CHAINS

Cobalt Blue's strategy is focused on maximising payable cobalt whilst participating in the strong growth of the lithium-ion battery market. Cobalt Blue is developing an integrated refinery model capable of delivering an intermediate MHP, which subsequently can be further refined into battery grade cobalt sulphate.

The process represents an efficient and cost-effective way of recovering cobalt from within the pyrite crystal lattice. Mineral processing options for pyrite ores have generally been limited to roasting, pressure oxidation leaching or bioleaching, as commonly observed in many gold and copper operations. COB's proprietary process incorporates the two key steps of (i) decomposing the pyrite into pyrrhotite and elemental sulphur under inert thermal processing; and (ii) rapid leaching of the pyrrhotite in a low temperature and pressure oxidation leach to recover key metals. The process flowsheet is illustrated overleaf.

### The Broken Hill Cobalt Process Flowsheet



Source: Company

The flowsheet incorporates COB's proprietary processing technology which in summary combines established and proved processes applied to address the specific characteristics of BHCP's cobalt-bearing pyrite as summarised below:

1. Crushing ROM ore to 1mm to recover a pyrite concentrate using gravity separation via spirals (and flotation for fines) – while very simple, this initial step materially reduces the volumes required to be processed (from 6.3Mt to 1.0Mt) by increasing the grade +5x and therefore materially reducing the required plant capex vs peers.
2. Thermally treating the pyrite at +700°C under inert conditions to produce artificial pyrrhotite (calcine) and elemental sulphur. This process, also known as pyrolysis, eliminates the production of sulphuric acid and the costs associated with storing and transporting it. The sulphur is condensed into solid prills (nodules). Elemental sulphur is also a valuable by-product (spot price currently US\$400/t) and easier/cheaper to handle vs sulphuric acid.



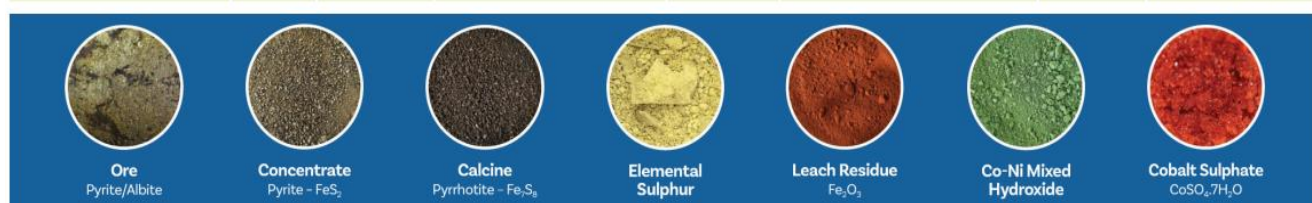
3. The pyrrhotite is then leached at low pressure and low temperature in an autoclave with >95% cobalt recoveries in the solution and additional sulphate recoveries via remelting.
4. The final stage comprises removal of minor metals (via precipitation, ion-exchange and solvent extraction) and precipitation of cobalt and nickel into a mixed hydroxide product (MHP) intermediate. MHP produced from COB's process has achieved +30% Co and 7% Ni, unlike most MHPs which typically contain an inverse proportion of nickel and cobalt.
5. COB also has the option of further processing its MHP into a cobalt sulphate and a nickel sulphate solution.

Target recovery targets are in the order of 90% for cobalt and 75% for sulphur.

COB's Pilot Plant has proven that the process works and produces premium products. The final stage before commercial production comprises a Demonstration Plant to treat up to 4,000 tonnes, which will be 1:500 to 1:1000 the scale proposed at the BHCP.

### De-risking stages prior to commercial production

Study Level	Period	Concentrate Circuit		Pyrolysis Circuit		Leaching/Purification	
Scoping Study	2017	20–30 kg	Lab scale	1 kg	Lab scale	1 kg	Lab scale
Pre-Feasibility Study	2018	820 kg	Bulk trial in batch mode	100 kg	2–3 kg batches	30 kg	0.2–1 kg batches
Project Update	2020	45 tonne	Continuous pilot circuit 2–3 t/hr	150 kg	Continuous pilot circuit 4–8 kg/hr	20 kg	1–3 kg batches
Pilot Plant	2021	45–50 t	Continuous pilot circuit 2–3 t/hr	Up to 15 t	Commercial sized furnace 100–150 kg/hr	Up to 15 t	Pilot equipment 1t batches
Demonstration Plant	2022	3000 t	Mobile plant 10–15 t/hr	Up to 500 t	Commercial sized furnace 100–150 kg/hr	Up to 500 t	Demonstration plant 50–100 kg/hr



Source: Company

COB has commenced underground development to support its Demonstration Plant with construction and commissioning underway. The scale of this Demonstration Plant is material with 4,000 tonnes of ore being mined from Pyrite Hill to support the 20 weeks of continuous operation. Two underground development drives will provide access laterally to the cobalt-pyrite mineral resource and allow representative samples to be obtained. This is important to ensure that unbiased engineering data is generated from the Demonstration Plant for the BHCP Feasibility Study. Site establishment works have been completed and excavation of the box cut is well advanced, as illustrated below, with installation of the decline portal to commence shortly. The decline will extend approximately 80 metres and intersect with the ore body approximately 40 metres below surface.

The Demonstration Plant comprises the following key activities:

1. The mined ore will be crushed, milled and treated to produce a cobalt-pyrite concentrate at the mine site; and
2. The concentrate will then be trucked to the processing plant in Broken Hill for extraction and recovery of cobalt as mixed hydroxide precipitate and/or cobalt sulphate.

Box cut decline to access first ore



Load and haul activities at the box cut



Commissioning of the Float Cell



Cobalt solvent extraction



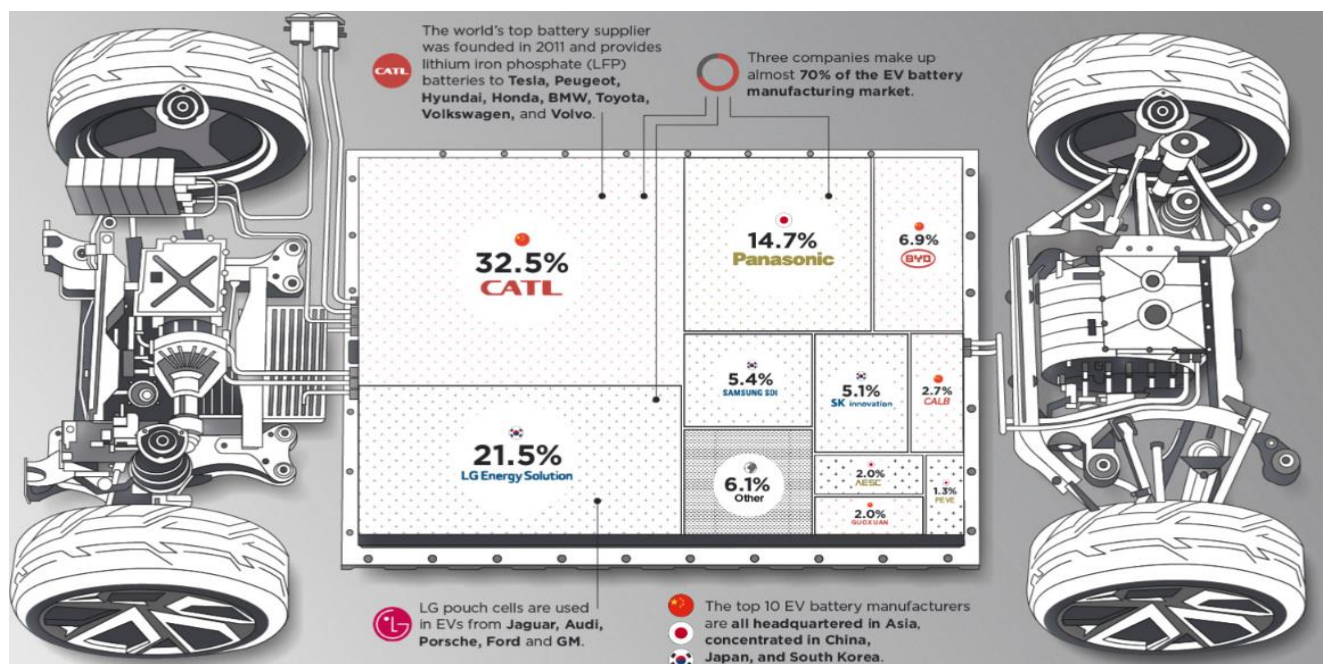
Source: Company

## STRATEGIC PARTNERS

Cobalt Blue has existing partnerships with LX International (formerly LG International the resources arm of LG Corporation) in respect of cobalt and Mitsubishi Corporation in respect of sulphur. We expect significant interest from the parties that received Pilot samples following distribution of samples from the Demonstration Plant.

LG is a shareholder of Cobalt Blue after participating in a US\$6m placement in April 2018 at \$1.10, a 15% premium to 30-day VWAP. The Company's "first mover" commercial partner, LG International (the resources investment arm of LG Corporation) continues to be supportive, with regular progress meetings held. LG is one of the world's leading LIB suppliers (market share of 21.5%).

### LG ranks 2<sup>nd</sup> within the world's Top 10 EV battery suppliers



Source: Elements



In Australia, LG's investment strategy has been to invest directly in Australian emerging and producing companies to secure and strengthen its supply of core battery materials such as nickel and cobalt in the near term.

Cobalt Blue also has a sulphur marketing agreement for Demonstration Plant production with Mitsubishi Corporation for its planned sulphur production.

## **CRITICAL MINERALS & OTHER INITIATIVES**

The BHCP has been included in both the Australian Government Critical Minerals Prospectus and NSW Government Minerals Strategy and is being actively promoted via government to overseas partners. The BHCP is the only primary cobalt project named in the Australian Critical Minerals Prospectus 2021<sup>1</sup> and is being actively marketed by Austrade.

COB has been a member of the Future Battery Industries - Cooperative Research Centre (FBI-CRC) since its inception in 2019. One of its key projects is the flagship Cathode Precursor Pilot Plant in Perth. BHCP's cobalt sulphate will be used in the upcoming A\$18m FBI-CRC cathode precursor pilot plant in WA. COB is supplying the cobalt content to support the operations of this Australian technological first - COB is the "C" in the NCM cathode precursor pilot plant.

The BHCP has now been recognised as a State Significant Development (SSD). SSD Approval provides an integrated assessment pathway and minimises the number of secondary environmental approvals that must be attained for a project.

### Diamond drill core with cobalt-bearing pyrite



Source: Company

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<sup>1</sup> The Australian Critical Minerals Prospectus 2021 can be found at: <https://www.austrade.gov.au/australian-critical-minerals-prospectus>

## RECOVERY OF COBALT FROM MINE WASTE – SIGNIFICANT VALUE UPSIDE

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COB's proprietary processing technology allows it to extract cobalt from cobalt-bearing pyrite. While management is primarily focused on the Broken Hill Cobalt Project, a range of discussions have been held with selected potential partners who have expressed interest in COB's processing technology to monetise their cobalt-bearing pyrite, address environmental liabilities or both.

Cobalt-bearing pyrite tends to be a waste by-product of existing mining operations such as those at Mt Isa and Cloncurry and represents a potential environmental liability (since stockpiled sulphides can lead to acid rock drainage). Cobalt Blue believes that its patented processing technology has the potential to turn an existing environmental liability into a revenue stream.

Following lengthy discussions with the Queensland Government and a range of initial studies, in December 2021 COB announced a Memorandum of Understanding with the Queensland Government's Department of Resources via the launch of its Cobalt in Waste Streams Project - a rollout of its existing technology and test facilities to examine cobalt (and any coexisting base and precious metals) recovery from existing mine waste. COB has identified substantial quantities of cobalt in sulphide mine tailings, stockpiles and waste dumps and is looking to apply its proprietary technology. The Demonstration Plant will provide the facilities for associated test work and the next step is to prioritise a set of opportunity targets for deeper investigation.

In addition to the Queensland Government, COB has recently engaged with:

- OZ Minerals (ASX:OZL): OZ Mineral's Carrapateena copper/gold mine in South Australia produces a pyrite concentrate by-product which contains cobalt, copper and gold. COB has undertaken test work which confirmed that COB's Process is suitable for treating and extracting copper, gold, and cobalt from the Carrapateena pyrite concentrate.
- Havilah Resources (ASX: HAV): Havilah owns the Mutooroo copper-cobalt project located ~20km from COB's project in Broken Hill, across the border in South Australia. HAV provided COB a representative 10kg sample of Mutooroo ore and COB performed laboratory testwork which confirmed strong cobalt recoveries.
- Global Energy Metals Corporation (TSX:GEMC): GEMC owns the Millennium Cobalt Project in Queensland and engaged COB to test the viability of COB's processing technology on its cobalt-bearing pyrite. COB developed a successful flotation scheme for GEMC's Millennium Project to produce two separate copper and cobalt concentrates. The total flotation recovery of metal to concentrates achieved was 93% cobalt, 90% copper and 80% gold.

While COB's BHCP is the primary focus and driver of value at present, we believe that the selective application of this proprietary technology will result in significant value to COB in the future.











## COBALT MARKET UPDATE – DOMINANT LIB CHEMISTRIES

Cobalt is a key input in a range of high value applications including superalloys (aerospace, military, energy and other applications), tool materials and cathodes for Lithium-ion Batteries (LIBs) in Electric Vehicles (EVs). Cobalt demand is expected to double by 2030, driven by the increased penetration of EVs (currently at 12% market share and forecast to be circa 35% by 2030). This expected increase in cobalt demand takes into account “cobalt thrifting” as battery manufacturers have sought to reduce cobalt use within batteries due to high cobalt price, chronic supply chain constraints and ESG issues associated with its mining and processing - nearly 70% is sourced from the Democratic Republic of Congo with most of the balance supplied from Russia, Australia, Philippines, Cuba, Madagascar and Papua New Guinea.

The figures below illustrate the relative amount of cobalt used in an average EV (2020) and across the established battery chemistries currently used by OEMs.

### Relative use of cobalt in a 60 kWh LIB and across key battery chemistries



	NMC811 Nickel (80%) Manganese (10%) Cobalt (10%)	NMC523 Nickel (50%) Manganese (20%) Cobalt (30%)	NMC622 Nickel (60%) Manganese (20%) Cobalt (20%)	NCA+ Nickel Cobalt Aluminum Oxide	LFP Lithium iron phosphate
 <b>LITHIUM</b>	5KG	7KG	6KG	6KG	6KG
 <b>COBALT</b>	5KG	11KG	11KG	2KG	0KG
 <b>NICKEL</b>	39KG	28KG	32KG	43KG	0KG
 <b>MANGANESE</b>	5KG	16KG	10KG	0KG	0KG
 <b>GRAPHITE</b>	45KG	53KG	50KG	44KG	66KG
 <b>ALUMINUM</b>	30KG	35KG	33KG	30KG	44KG
 <b>COPPER</b>	20KG	20KG	19KG	17KG	26KG
 <b>STEEL</b>	20KG	20KG	19KG	17KG	26KG
 <b>IRON</b>	0KG	0KG	0KG	0KG	41KG

Source: Elements with data from the European Federation for Transport and Environment

The NMC111 battery, containing equal proportions of nickel, manganese and cobalt, has been superseded by models that have a higher content of nickel (up to 80%) and less cobalt (10%-20%). The higher nickel content in these batteries increases energy density (therefore EV driving range) with cobalt still acting as stabiliser, improving safety and battery life. The LFP battery (lithium-iron-phosphate) has no nickel or cobalt) represents a trade-off between lower cost at the expense of a lower driving range. It has been primarily deployed in China and some OEMs expect to use it for “entry level” EVs.

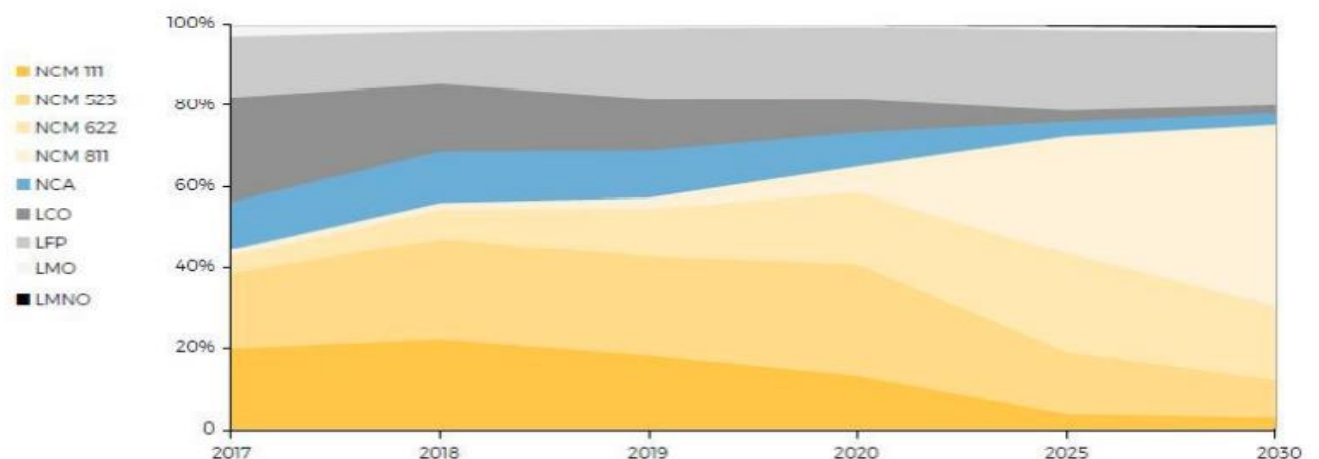
#### Dominant battery chemistries for top 10 EVs across key markets

CHINA		EUROPE		USA	
Top 10 models	Chemistry	Top 10 models	Chemistry	Top 10 models	Chemistry
Hongguang mini EV	LFP & NMC	Tesla Model 3	NCA & LFP	Tesla Model Y	NCA & NCMA
Tesla China Model 3	LFP & NCA	Renault Zoe	NMC 721	Tesla Model 3	NCA & LFP
Tesla China Model Y	LFP & NCMA	VW ID.3	NMC 721	Chevy Bolt	NMC 721
Ora R1	LFP & NMC	VW ID.4	NMC 721	Mustang Mach-E	NMC 811
BYD Han **	LFP for BEV	Ford Kuga **	NMC 532	Nissan Leaf	NMC 532
GAC Aion S	NMC	Skoda Enyaq iV	NMC 721	VW ID.4	NMC 721
Cherry eQ	NMC	Fiat 500 Electric	NMC 622	Audi E-tron	NMC 622
CCAG Benben EV	LFP	Hyundai Kona Electric	NMC 622 / NCMA	Porsche Taycan	NMC 622
XPeng Motors	LFP	Kia eNiro	NMC 622	Tesla Model S	NCA
NIO ES6	NMC 811	Peugeot e208 **	NMC 532	Tesla Model X	NCA

Source: The Cobalt Institute \*\*PHEV available, remainder EV only

The LFP battery currently has a market share of under 30% due to China’s higher EV penetration compared with Western countries. However, a key consideration in addition to cost, for Western consumers in switching to EVs has been “Range Anxiety” or the fear that the EV has insufficient energy storage (battery capacity) to cover the road distance needed to reach its intended destination and would strand the vehicle's occupants. This factor, considered to be one of the major psychological barriers to large-scale public adoption of electric cars, combined with the expected further improvement in performance of Ni-Co batteries (whereas the LFP cathode crystal structure puts a cap on the battery’s storage capacity) points towards a continuation of relative dominance by the Ni-Co chemistries.

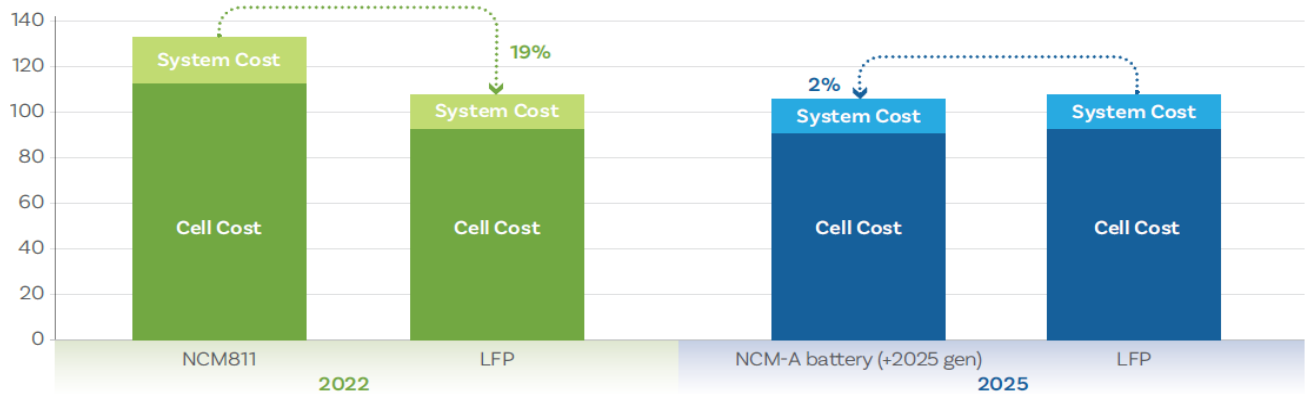
#### Lithium-ion battery market share by chemistry



Source: Electra Battery Materials, Benchmark Minerals, Nickel Institute

In addition, the potential to close the gap in cost between NCM and LFP chemistries within a few years is expected to erode market share in favour of Ni-Co based chemistries.

### NCM811 vs LFP



Source: Cobalt Blue, UBS

From an EV OEM perspective, Tesla recently illustrated (2021 Impact Report) the balancing act between consumer's expectations, existing LIB chemistries and cost considerations.

### Battery Supply Chain: The Tesla Approach

#### **Our diversified cathode strategy**

Tesla's batteries today contain a variety of different cathode chemistries, including nickel-cobalt-aluminum (NCA) and nickel-cobalt-manganese (NCM) for higher energy applications and lithium iron phosphate (LFP) for lower energy applications. Tesla will continue to advance a diversified cathode strategy for LFP, nickel-rich and manganese-rich cathodes to address various market segments for vehicle and energy storage products and provide future flexibility based on raw materials availability and pricing. To put this into context, lithium only accounts for roughly 1.5% of the full battery pack weight. Additionally, iron phosphate battery packs contain no cobalt or nickel.

While the relative cathode compositions and our overall demand of various minerals and battery-grade chemicals will continue to evolve, Tesla and the global battery supply chain will require significant quantities of responsibly produced lithium, nickel, cobalt, manganese, iron, phosphates and many other minerals for the foreseeable future. While we recognize the critical role battery recycling will play in supplying a portion of these materials to enable a closed loop supply chain, global cell production will continue to rely heavily on primary, mined materials to meet the growing demand in the short to medium term. The availability and affordability of these minerals and chemicals are key to advancing Tesla's mission and accelerating the transition to sustainable energy. We will continue to collaborate with our suppliers and upstream producers in providing visibility to enable the scale up of key battery minerals.

For cells containing NCA and NCM cathodes, we continue to work toward batteries that contain higher levels of nickel in order to improve vehicle range while lowering overall battery costs, without compromising overall cell performance, such as battery safety and lifetime, that is currently enabled by cobalt. It is important to note that we expect our absolute cobalt demand to increase over the coming years because our vehicle and cell production growth rate is forecasted to outpace the overall rate of cobalt reduction on a per cell basis.

Nickel-Cobalt-Aluminum Cathode



Nickel-Manganese-Cobalt Cathode



Lithium-Iron-Phosphate Cathode

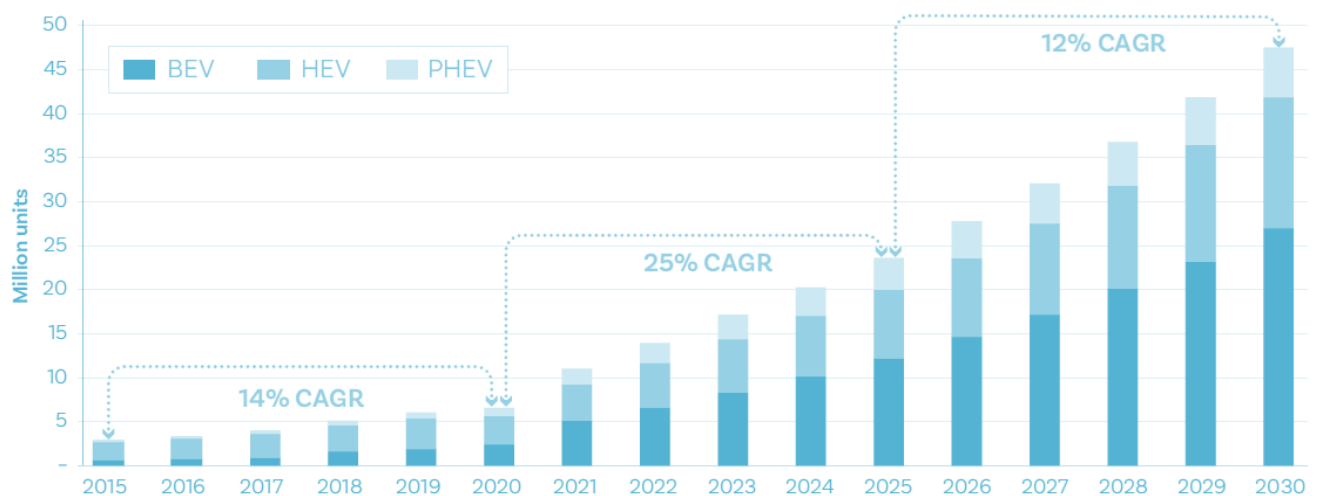


Source: Tesla 2021 Impact Report



In summary, total demand for cobalt is expected to be higher over the foreseeable future driven by substantial growth in EV sales vs the expected reduction of cobalt per battery pack across the “average” EV. While there are a number of competing battery technologies, and battery manufacturers continue to explore ways to reduce the cobalt content in LIBs, the consensus view among mineral economists and the battery industry seems to be that demand for cobalt from EV uptake is expected to outweigh the impact of ‘cobalt thrifting’. Expansion of existing mines and development of new projects may not be sufficient to balance the market, potentially resulting in structural deficits from 2024 and a higher price environment to incentivise new supply.

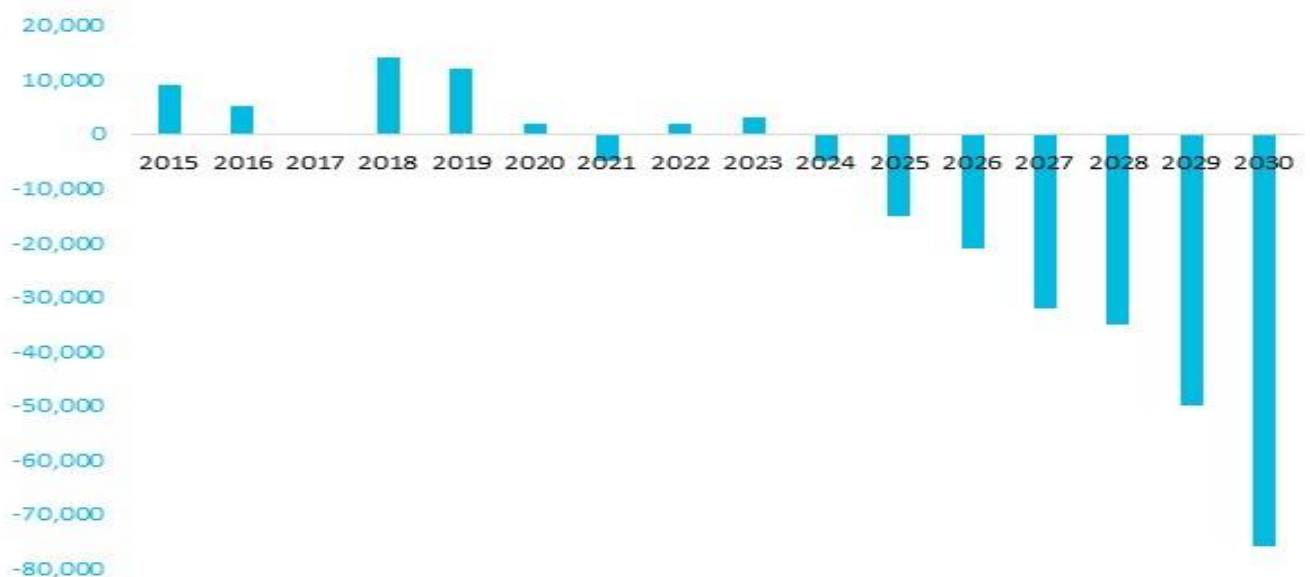
#### Forecast EV sales to 2030



Source: Cobalt Blue, Wood Mackenzie

From the supply side, existing production, project re-starts and expansions, the DRC remains critical (i.e. Mutanda, Kinsevere, Tenke Fungurume) with additional projects required in the medium term to meet demand. However, after incorporating mine expansions and probable/possible projects into the analysis material deficits are expected from 2024.

#### Forecast cobalt supply/demand deficits to 2030

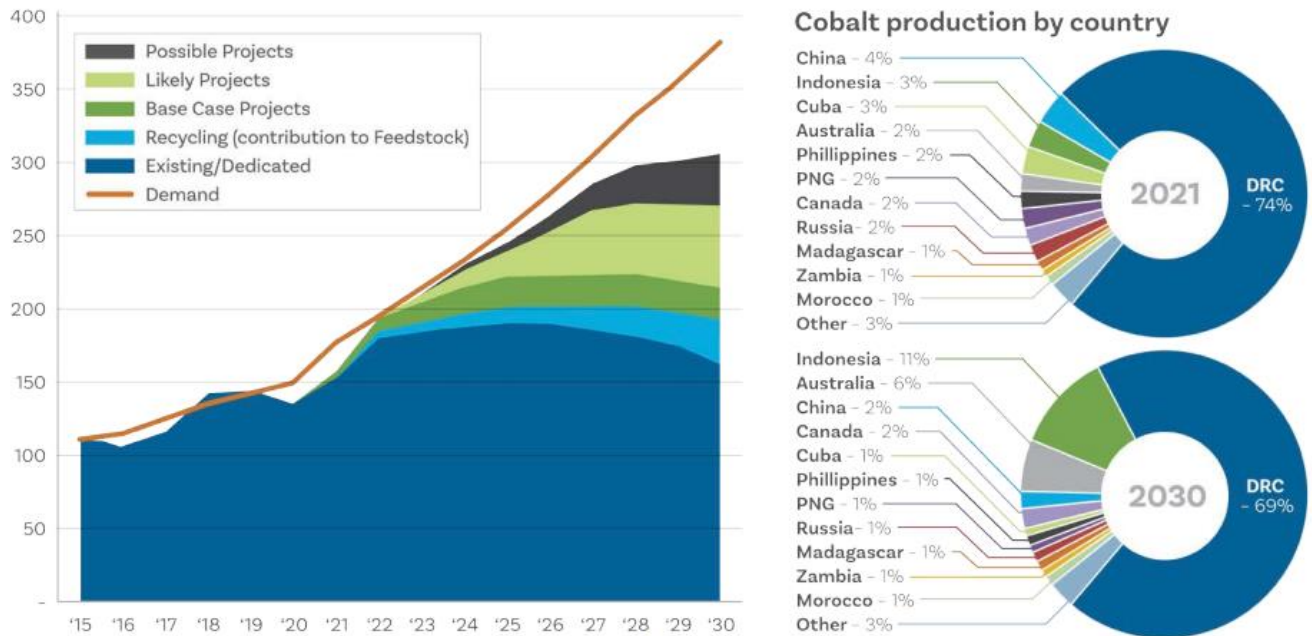


Source: Seeking Alfa, Benchmark Mineral Intelligence



With the expected doubling in demand by 2030, supply may struggle to keep pace even after assuming all likely and possible projects get into production.

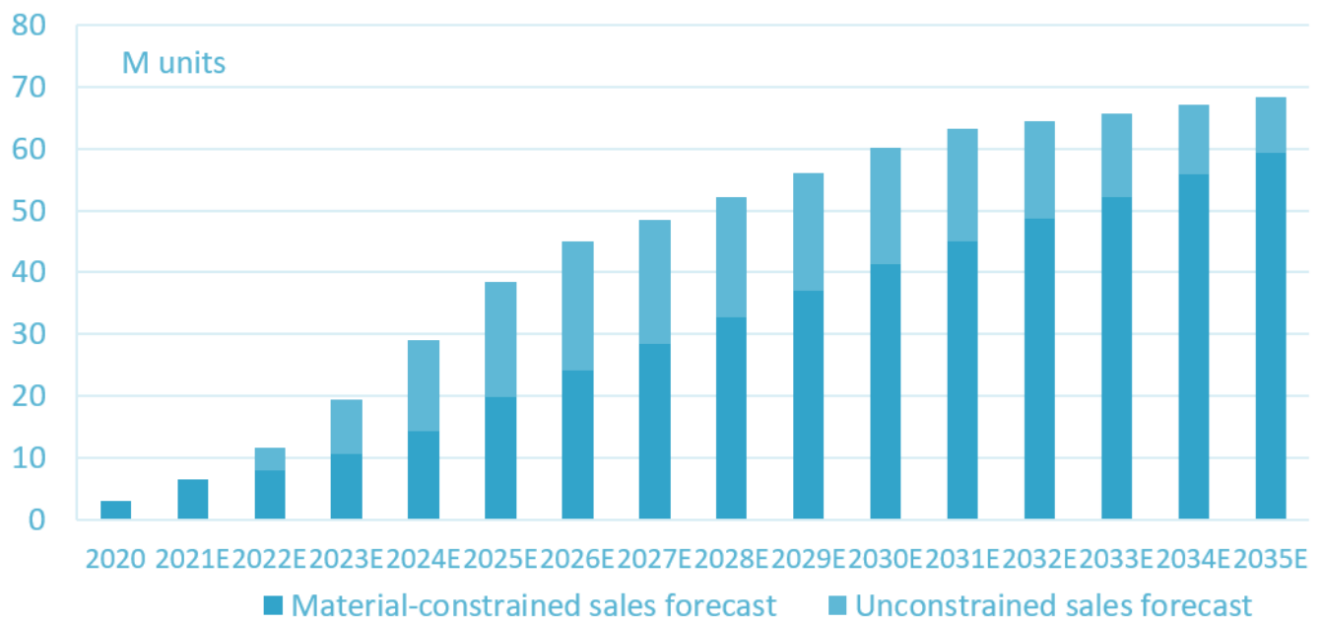
Market Balance: 85ktpa required by 2025 and 200ktpa by 2030



Source: Cobalt Blue, Wood Mackenzie

The outlook for cobalt (and other LIB inputs) supply/demand dynamics has prompted market observers such as Fastmarkets to consider EV sales based not only on an unconstrained view of the world but also based on the potential reality that underinvestment in the upstream side of the EV supply chain may pose a physical (or cost) limits to EV penetration.

Material constrained vs unconstrained EV sales forecast



Source: Fastmarkets, CRU, Westbeck Capital

For Australian cobalt miners, it is important to highlight that the big three South Korean battery makers (LG Energy Solution, Samsung SDI and SK Innovations) are focusing on NCM and NCA

batteries. In addition, China also controls ~82% of the worlds refined cobalt, so if cathode and battery manufacturers outside China hope to compete, there is a strong strategic imperative for these players to secure their own large-scale, low-cost source of cobalt. We expect that projects such as BHCP could eventually command a “strategic premium” that reflect their scarcity and strategic nature to LIB/OEM manufacturers that have spent several US billion to build Gigafactories that may remain idle and/or operate at suboptimal capacity levels.

## UPDATE ON INVESTMENT PROPOSITION

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In this section we discuss our valuation assumptions for Cobalt Blue.

### BASE CASE VALUATION

Our Base Case valuation for Cobalt Blue is based on:

- A DCF for BHCP using COB's Project Update estimates released in July 2020 with further adjustments to reflect the results of the Production Pilot and including the expected benefit of the nickel credit
- Updating cobalt prices to reflect the expected outlook (medium term price of US\$37/lb) including supply/demand deficits from 2024/25 when BHCP commences production and the scarcity of ex DRC/Russian sources of Ethical Cobalt
- Updating sulphur prices (US\$180/t vs US\$400/t spot price) and nickel prices (US\$14.5/lb)
- Assuming a long-term A\$/US\$ exchange rate of 0.75
- Employing a nominal discount rate of **10% (8% real)**
- For an NPV of A\$688m for 100% of the project
- We apply a 40% discount to our valuation to account for development risks and potential future dilution.

Given the substantial initial capex requirement of A\$560m compared to the Company's current market cap of ~A\$270m, we assume COB could sell down a minority interest in BHCP to fund development to minimise dilution.

We consider that due to the unique features of the BHCP, the relatively limited options available to potential end users for large-scale, low-cost, ethically derived cobalt (from a safe, stable jurisdiction) the strong price environment driven by current & expected supply/demand deficits and the strong interest from OEMs and LIB manufacturers to secure long term supply this price assumption could be conservative. We also consider that, under the current environment, an offer for control (i.e. representing control premia in the order of 30-50%) could emerge prior to FID.

In addition, there is substantial upside to our valuation from Cobalt Blue's patented processing technology. We ascribe a notional valuation of A\$50m at this stage and hold the view that COB's processing technology could potentially be worth several hundred million dollars once it is fully de-risked and successfully deployed across Queensland and other waste stream and/or stranded assets.

## BASE CASE SENSITIVITY

The table below illustrates the sensitivity of our Base Case valuation of BHCP to cobalt prices and the A\$/US\$ FX:

Base Case: BHCP sensitivity to Cobalt Prices and A\$/US\$

NPV post-tax (A\$m)		Cobalt Price (US\$/lb)				
		25	30	35	40	45
A\$/US\$	0.80	324	583	842	1,101	1,360
	0.75	442	718	995	1,271	1,547
	0.70	577	873	1,169	1,465	1,761

Source: Blue Ocean Equities

## UPSIDE CASE VALUATION

Cobalt Blue has pointed towards a number of areas where the project metrics for the BHCP could potentially improve. In our view there is clear potential for improvement in a number of areas that would have an impact on valuation of the BHCP during the finalisation of the DFS.

These potential project enhancements include:

- **Improved recoveries**
  - The Project Update assumed cobalt recoveries of 85.5% however the best results to date are closer to 89-90%, once recycle streams are incorporated. If we assume ultimate recoveries are 88%, it adds ~A\$118m to our NPV.
- **Contract Power – we assume a potential upfront capex saving of A\$30m**
  - The estimated capex for BHCP included A\$35.5m for owner-operator high voltage power. Prevailing power costs are materially less than the assumptions included in COB's Project Update. So even moving to contract power, the power costs at BHCP may still actually come down.
- **Contract Mining – we assume potential upfront capex saving of A\$20m**
  - The estimated capex for BHCP included A\$29.7m for mining fleet and infrastructure under an owner-operator model. We also add 10% to mining costs for contract mining.

Including all three of these potential project enhancements increases our post-tax NPV 23% from A\$688m to A\$848m and would increase our Price Target by 21% to \$1.75.

In parallel, if Cobalt Blue can successfully develop BHCP and progress its Processing Partnership arrangements, our Price Target is likely to be well north of \$3.0 per share.

## UPSIDE CASE SENSITIVITY

The sensitivity table below illustrates the sensitivity of our Upside Case valuation of BHCP to cobalt prices and the A\$/US\$ FX:

Upside Case: BHCP sensitivity to Cobalt Prices and A\$/US\$

NPV post-tax (A\$m)		Cobalt Price (US\$/lb)				
		25	30	35	40	45
A\$/US\$	0.80	535	802	1,068	1,335	1,602
	0.75	666	950	1,235	1,519	1,804
	0.70	815	1,120	1,425	1,729	2,034

Source: Blue Ocean Equities



## ACQUISITION VALUE PER POUND OF COBALT PRODUCTION

According to Benchmark Mineral Intelligence, in CY21 China was responsible for ~82%+ of the world's refined cobalt supply. In our view, China's dominant market share represents a key risk for ex-China battery manufacturers around the world.

Many cathodes and battery manufacturers increasingly recognise the importance of security of supply and have a strategic imperative to secure long term supply of low cost cobalt.

In that context, we believe there is clear value to such an end user by arbitraging how much they would be paying per pound of cobalt production under a notional offtake agreement close to spot prices vs the total cost under an acquisition of Cobalt Blue today.

As set out in the table below, assuming a 50% premium on the equity value of COB, a potential acquirer would be paying an all-in long-term price of ~US\$12.53/lb of cobalt production over the life of the BHCP.

To put that in context:

- Roskill's long term cobalt price forecast is US\$27.50/lb
- Paying an equivalent cobalt price of US\$16.34/lb represent a saving in the order of US\$11/lb
- **A US\$11/lb saving on 130mlbs represents a potential pre-tax saving of circa US\$1.4bn!**

This analysis excludes the benefit of Cobalt Blue's processing technology, which could potentially be applied to other projects which have cobalt-bearing pyrite.

### Cost per pound cobalt for a potential acquirer

Life of mine cobalt production from BHCP		mlb	130
All-in cost per pound cobalt	Premium?	A\$m	US\$/lb
Acquisition of Cobalt Blue	50%	310	2.33
BHCP Capex		560	3.16
BHCP AISC			10.85*
<b>All-in Cost</b>			<b>16.34</b>

Source: Blue Ocean Equities; \*Includes nickel credit

We believe this dynamic will not be lost on potential partners and end users (particularly EV OEMs seeking to secure supply for their pipeline of Gigafactories). However, one of the most important considerations for strategic investors is around the optimal timing for such a transaction.

LIB/EV OEMs are typically risk adverse and would seek confirmation that the Cobalt Blue process flow sheet works at scale, and the probability of corporate interest is likely to increase post completion of the Demonstration Plant and DFS.

However, COB has a relatively open shareholder register and it could be possible that corporate activity eventuates following the Demonstration Plant and prior to completion of the DFS by less risk-adverse groups, particularly if there is an imperative to secure a low-cost, strategic cobalt development project of global significance.

## PRICE TARGET & RATING

We maintain a Buy recommendation and \$1.45 Price Target, an implied potential return of ~80%. Our Base Case valuation for Cobalt Blue is based on:

- A DCF for BHCP using COB's Project Update estimates released in July 2020 and including the potential benefit of the nickel credit (see p19)
- Assuming long term cobalt prices of US\$37/lb
- Assuming a long term A\$/US\$ exchange rate of 0.75
- Employing a nominal discount rate of 10% (8% real)
- For an NPV of A\$688m for 100% of the project

Given the substantial initial capex requirement of A\$560m compared to the Company's current market cap of ~A\$270m, we assume COB will need to find a partner to build the BHCP, as the go-it-alone option would be too dilutive at present.

We assume COB sells a 25% stake in the BHCP for ~70% of NPV for sale proceeds of ~\$193m. Given the unique nature of the Cobalt Blue opportunity, and the relatively limited options available to potential end users for large-scale, low-cost, ethically-derived cobalt (from a safe, stable jurisdiction), in our view this price could be achievable.

We also apply a 40% discount to our valuation to account for risks and potential future dilution.

The other key element to our valuation is Cobalt Blue's patented processing technology. At this stage we ascribe a notional and conservative valuation of A\$50m.

## KEY RISKS

Cobalt Blue is exposed to the risks associated with developing a mining project, including, metallurgy, permitting, funding and as well as construction risks and normal project ramp up and commissioning risks.

Given the material funding required to develop the BHCP, we believe the Company may need to attract a strategic partner to assist with development funding, representing an additional area of risk.

Assuming Cobalt Blue can successfully make the transition into production, its revenues will be derived from the sale of cobalt and elemental sulphur. Fluctuations in the prices of cobalt and sulphur as well as the Australian dollar could impact the Company's reported cash flow (in A\$), profitability and share price.

As Cobalt Blue's BHCP is based in NSW, an investment in Cobalt Blue also carries Australian sovereign risk, which we regard as a relatively stable and safe jurisdiction compared to many other mining jurisdictions around the world.

## MODEL SUMMARY: FINANCIALS & VALUATION

### Cobalt Blue Holdings

**Code: COB**
**Stock Details**

Recommendation:	<b>BUY</b>		
Target	\$1.45	Share Price	\$0.81
NAV	\$1.46	52 Week High	\$1.07
Implied Return	80%	52 Week Low	\$0.23

Enterprise Value	\$231m
Diluted MCAP	\$261m
Diluted Shares	325m
Free Float	100%
Avg Daily Value	\$0.90m

Macro Assumptions	FY21	FY22E	FY23E	FY24E	FY25E
Exchange Rate (A\$/US\$)	0.74	0.75	0.75	0.75	0.75
Cobalt Price (US\$/lb)	29	37	37	37	37
Cobalt Price Realised (A\$/lb)	39	49	49	49	49

Profit & Loss (A\$m)	FY21	FY22E	FY23E	FY24E	FY25E
Revenue	-	-	-	-	108
Operating Costs	-	-	-	-	(44)
<b>Operating Profit</b>	-	-	-	-	<b>64</b>
Corporate & Other	(2)	(3)	(3)	(3)	(3)
Exploration Expense	-	-	-	-	(0)
<b>EBITDA</b>	<b>(2)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>	<b>61</b>
D&A	(0)	(0)	(0)	(0)	(8)
<b>EBIT</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>	<b>54</b>
Net Interest Expense	(0)	(0)	(0)	(0)	(3)
<b>Pre-Tax Profit</b>	<b>(3)</b>	<b>(4)</b>	<b>(3)</b>	<b>(3)</b>	<b>51</b>
Tax Expense	-	-	-	-	(16)
<b>Underlying Profit</b>	<b>(3)</b>	<b>(4)</b>	<b>(3)</b>	<b>(3)</b>	<b>35</b>
Significant Items (post tax)	-	-	-	-	-
<b>Reported Profit</b>	<b>(3)</b>	<b>(4)</b>	<b>(3)</b>	<b>(3)</b>	<b>35</b>

Cash Flow (A\$m)	FY21	FY22E	FY23E	FY24E	FY25E
Operating Cashflow	(2)	(3)	(4)	(3)	61
Tax	-	-	-	-	-
Net Interest	(0)	(0)	(0)	(0)	(3)
<b>Net Operating Cash Flow</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(3)</b>	<b>58</b>
Exploration	(2)	(1)	(1)	-	(1)
Capex	(3)	(23)	(2)	(336)	(86)
Acquisitions / Disposals	-	-	193	-	-
Other	1	-	-	-	-
<b>Net Investing Cash Flow</b>	<b>(4)</b>	<b>(24)</b>	<b>191</b>	<b>(336)</b>	<b>(86)</b>
Equity Issue	22	1	7	34	-
Borrowing / Repayments	(0)	-	(3)	279	(35)
Dividends	-	-	-	-	-
Other	-	15	-	1	2
<b>Net Financing Cash Flow</b>	<b>22</b>	<b>16</b>	<b>4</b>	<b>314</b>	<b>(33)</b>
Change in Cash Position	16	(11)	191	(25)	(61)
FX Adjustments	-	-	-	-	-
<b>Cash Balance</b>	<b>18</b>	<b>7</b>	<b>198</b>	<b>173</b>	<b>113</b>

Balance Sheet (A\$m)	FY21	FY22E	FY23E	FY24E	FY25E
Cash	18	7	198	113	138
Other Current Assets	0	0	0	0	0
PP&E	3	26	27	441	428
Exploration & Development	21	22	23	24	25
Other Non Current Assets	0	0	0	0	0
<b>Total Assets</b>	<b>43</b>	<b>56</b>	<b>249</b>	<b>577</b>	<b>591</b>
<b>Debt</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>
Other Liabilities	1	1	1	17	20
<b>Net Assets</b>	<b>39</b>	<b>52</b>	<b>248</b>	<b>317</b>	<b>396</b>

Ratio Analysis		FY21	FY22E	FY23E	FY24E	FY25E
Diluted Shares	m	318	335	335	381	381
EPS - Diluted	Ac	(1.2)	(1.1)	(1.0)	(0.9)	9.2
<b>P/E</b>	<b>x</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>8.7x</b>
CFPS - Diluted	Ac	(0.9)	(1.0)	(1.2)	(0.8)	15.3
<b>P/CF</b>	<b>x</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>5.3x</b>
FCF - Diluted	Ac	(1.5)	(7.6)	(1.6)	(88.8)	(6.4)
<b>P/FCF</b>	<b>x</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>

Dividends	Ac	-	-	-	-	-
Dividend yield	%	-	-	-	-	-
Payout Ratio	%	-	-	-	-	-
Franking	%	-	-	-	-	-

Enterprise Value	A\$m	244	255	63	149	123
<b>EV/EBITDA</b>	<b>x</b>	<b>(105.2x)</b>	<b>(88.1x)</b>	<b>(23.8x)</b>	<b>(56.3x)</b>	<b>2.0x</b>
ROE	%	(8%)	(7%)	(1%)	(1%)	9%
ROA	%	(7%)	(6%)	(1%)	(1%)	6%

Net Debt / (Cash)		(17)	(6)	(198)	(113)	(138)
Gearing (ND/(ND+E))	%	n.m.	n.m.	(399%)	(55%)	(54%)
Gearing (ND/E)	%	n.m.	n.m.	(80%)	(36%)	(35%)

**Resource & Reserve** Updated September 2021

BHCP	Tonnes	Grade	Cobalt
Resource	mt	ppm	kt
Measured	18	1,030	18.3
Indicated	59	631	37.1
Inferred	41	619	25.6
<b>Total</b>	<b>118</b>	<b>687</b>	<b>81.1</b>

Reserve	mt	ppm	kt
Probable	71.8	710	51.0

Earnings Sensitivity		FY25E	FY26E	FY25E	FY26E
		A\$m	A\$m	%	%
Cobalt Price	US\$/lb +10%	8	14	44%	25%
Exchange Rate	A\$/US\$ -10%	11	18	59%	34%

Valuation	Discount	Stake	A\$m	A\$/sh
BHCP (unrisked)		100%	1,105	3.40
BHCP (risk-adjusted)	40%	75%*	418	1.29
Processing Tech			50	0.15
Corporate & Other			(32)	(0.10)
Debt			3	0.01
Cash			27	0.08
Option Strikes			8	0.02
<b>Risk adjusted NAV</b>			<b>475</b>	<b>1.46</b>
				<b>0.55x</b>

\*Our Base Case valuation assumes Cobalt Blue sells 25% of BHCP to a partner for ~70% of NPV

Source: Company data, Blue Ocean Equities

## BOARD & MANAGEMENT

**Robert Biancardi, Independent Chairman:** Mr Biancardi is an experienced executive with more than 35 years commercial experience across the finance, IT, healthcare and service sectors. Mr Biancardi previously held senior roles at IBM, Citibank and Westpac. He has been a director and CEO of a number of companies including Rockridge Group (Private Equity) and Hutchinsons Limited (Child Care Services). Mr Biancardi is a Board Member of the Heart Foundation of Australia, Diabetes Association and the “Bread & Butter” project.



**Joe Kaderavek, CEO:** Mr Kaderavek is an engineer with more than 20 years experience in investment research with a focus on mining, minerals processing and energy storage technologies. He was previously the Head of Resources at Deutsche Bank and also worked for PWC performing operational reviews and strategic assessments for mining, minerals processing, railway and port facilities, while on secondment to BHP and Rio Tinto. He was previously an international consultant focused on renewable energy & battery storage technologies.



**Hugh Keller, Independent Director:** Mr Keller has 35 years experience as a senior lawyer and was previously the Managing Partner at Blake Dawson (now Ashurst) and its predecessor firms. He retired from full time legal practice in 2010. Mr Keller was a Non-executive Director of ASX listed Thakral Holdings Ltd and of LJ Hooker Ltd and in both companies was a member of the Audit Committee. He was also the Chairman of a large private investment company with over \$150m of net assets.



**Rob McDonald, Independent Director:** Mr McDonald has extensive mining experience with over 10 years business development and strategic planning roles at Rio Tinto. He also has over 20 years of investment banking as director and principal of Resource Finance Corporation and as a Managing Director of N M Rothschild and Sons. In addition, Mr McDonald has over 10 years in private equity and as a non-executive director, including Chairman, of a number of publicly listed and private mining and mining service companies.



**Dr Andrew Tong, Executive Manager:** Dr Tong is a metallurgist with +15 years of experience in project development, mining and processing activities. He is formerly the CEO and Managing Director of Compass Resources/Northern Territories Resources (2015-2021). Prior to that Andrew was the CEO of Goldsmith Resources (Peru) and director of Australia Gold (2010-2017). Andrew is an inventor and holds several patents for processing minerals containing base and precious metals





**Danny Morgan, CFO:** Danny is a Chartered Accountant with over 30 years' professional financial and commercial experience, with a focus in the resources industry. He has worked with a range of private and ASX listed resource companies including Donaldson Coal (CFO), Hydra Energy (CFO), Oil Search and Roc Oil across IPO's, M&A, Financing, JV's, Project Developments and Financial Reporting.



**Joel Crane, Investor Relations and Commercial Manager:** Joel is a commodities economist with +15 years' experience analysing bulk, base and precious metals in global investment banks (Morgan Stanley and Deutsche Bank) covering all major metals, bulk commodities and EV raw materials. Prior to joining Cobalt Blue, Joe worked with Rio Tinto (Singapore and Melbourne) as Senior Manager leading teams within the internal Market Analysis Group tasked with communicating market and business analysis to the executive leadership.



## CONTACTS

### RESEARCH

**Carlos Crowley Vazquez**

Resources Analyst  
P +61 2 8072 2909  
E carloscrowley@boeq.com.au

**Thomas Brunton**

Equity Analyst  
P +61 2 8072 2920  
E thomasbrunton@boeq.com.au

**Nicholas O'Shea**

Equity Analyst  
P +61 2 8072 2935  
E nicholaso'shea@boeq.com.au

**Rex Adams**

Mining Consultant  
P +61 2 8072 2921  
E radams@boeq.com.au

**Garry Marsden**

Energy Analyst  
P +61 2 8027 2919  
E garrymarsden@boeq.com.au

**Mathan Somasundaram**

Market Portfolio Strategy  
P +61 2 8072 2916  
E mathan@boeq.com.au

**Vic Lee**

Senior Equity Analyst  
P +61 2 8072 2921  
E viclee@boeq.com.au

**Stuart Turner**

Senior Equity Analyst  
P +61 2 8072 2923  
E stuartturner@boeq.com.au

### SALES & TRADING

**Adam Stratton**

Director Sales & Trading  
P +61 2 8072 2913  
E adamstratton@boeq.com.au

**Josie Nicol**

Sales & Trading Associate  
P +61 2 8072 2931  
E josienicol@boeq.com.au

**Gavin Todd**

Institutional Sales & Trading  
P +61 2 8072 2922  
E gavintodd@boeq.com.au

**Andy McWilliam**

Senior DTR  
P +61 2 8072 2927  
E andymcwilliam@boeq.com.au

**Doc Cromme**

Institutional Sales & Trading  
P +61 2 8072 2925  
E doccromme@boeq.com.au

### HEAD OFFICE

**Blue Ocean Equities Pty. Ltd.**

AFSL No. 412765  
ABN 53 151186935

P +61 2 8072 2988

E info@boeq.com.au

W blueoceanequities.com.au

Level 29, 88 Phillip Street  
Sydney NSW 2000  
Australia

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The Analyst of this report does not own shares in Cobalt Blue.