

August 2019 Company Presentation

ASX: COB





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Section 1: Cobalt Blue Holdings Ltd



Investment Highlights & Achievements

- ❑ ASX listed primary cobalt exploration and development company
- ❑ Established commercial partnerships
- ❑ Advanced processing technology
- ❑ Value added cobalt sulphate production
- ❑ Significant defined Resources and Reserves
- ❑ Resilient C1 cash costs
- ❑ Strong exposure to EV market growth



Cobalt Blue Holdings Ltd – ASX listed

ASX: COB

- ASX listed primary cobalt exploration and development company

Commodities:

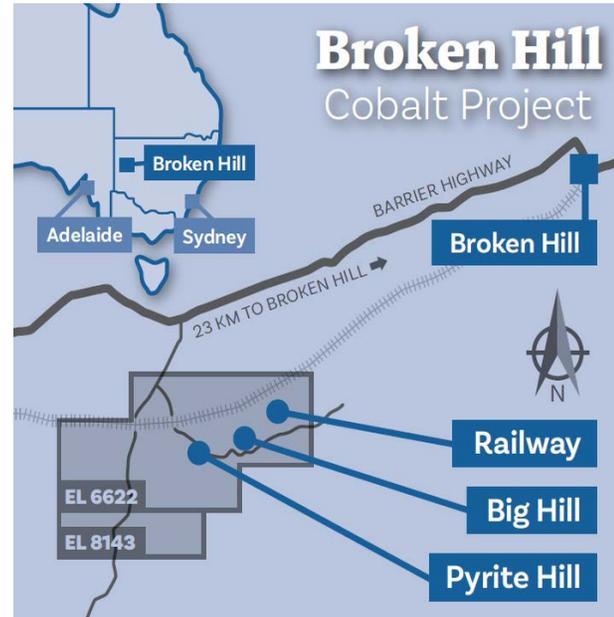
- Cobalt and Sulphur

Capital Structure:

- Ordinary Shares at 01/08/2019: **149.9m**
- Options (ASX Code: COB0): **29.6m**
- Market Cap (undiluted): **\$18.0m**

Share Price:

- Share Price at 01/08/2019: **\$0.12**



The Cobalt Blue Team

“Extensive expertise in mineral exploration and mine development, investment management, corporate law and energy storage.”

Independent Chairman – Robert Biancardi

- IBM, Citibank, Westpac and Evolution Healthcare (senior management and director).
- Numerous directorships of private companies including Rockridge Private Equity and Hutchisons Child Care (successful ASX listing).

Independent Director – Hugh Keller

- Partner Blake Dawson (now Ashurst) and its predecessor firms for 35 years until retirement from full time legal practice in 2010.
- Non-executive director of ASX listed Thakral Holdings Ltd and of LJ Hooker Ltd.

Independent Director – Rob McDonald

- 40 years of international mining sector experience.
- Investment banking/private equity investment management.

Chief Executive Officer – Joe Kaderavek

- Deutsche Bank, Head of Resources, equities / investment management, resources and energy storage technology focus.
- PwC, performing operational reviews and strategic assessments across mining, minerals processing, and infrastructure in Australia, North America and Europe; worked extensively on secondment to BHPB and Rio Tinto.
- International consulting role focused on renewable energy/battery storage technologies.

Executive Manager – Dr Andrew Tong

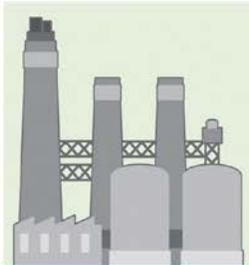
- Metallurgist with nearly 15 years experience in project development, operating mining and processing activities, and patenting innovative minerals processing technology.
- Non-executive director of Northern Territories Resources Pty Ltd.
- Formerly CEO of Compass Resources (Australia), and CEO of Goldsmith Resources (Peru).



Strategy and Partnerships

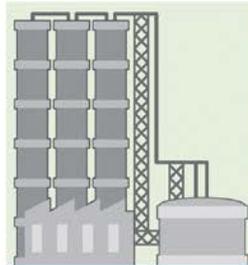


**COBALT/NICKEL/
COPPER MINE**



**METAL
REFINERY**

Cobalt ~25-35% payable
Traditional Cobalt Mine Model



**CHEMICAL
REFINERY**



**COBALT
SULPHATE**

Cobalt ~90-110% payable
Cobalt Blue Strategy



**LI-ION
BATTERIES**

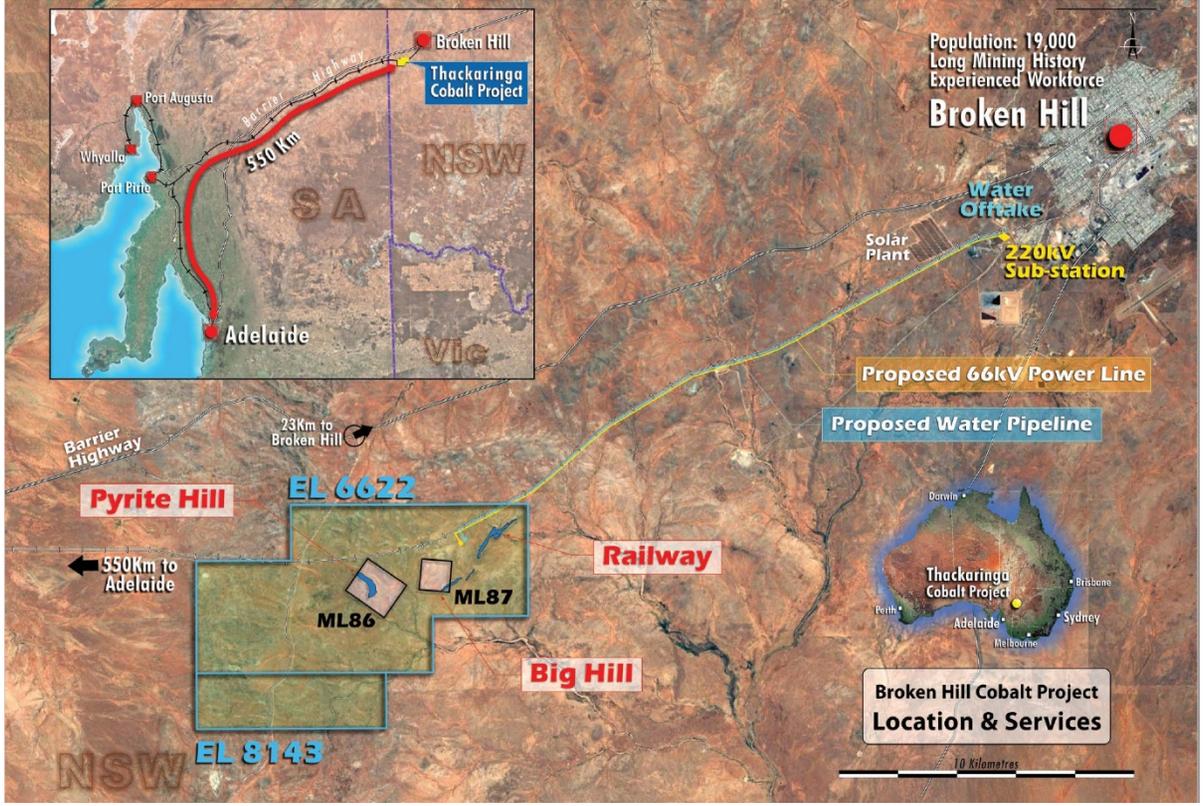
Strategic Partnerships



Section 2: Broken Hill Cobalt Project



Location – Water, Rail, Power, People



Mineral Resource – Released 4th April 2019

Category	Mt	Co ppm	CoEq ppm	Fe %	S %	Pyrite %	Contained Co (t)	Pyrite Mt
Pyrite Hill (at a 400ppm CoEq cut-off)								
Measured	18	928	1150	10.7	9.9	19	17,100	3
Indicated	7	759	940	9.7	8.1	15	5,600	1
Inferred	7	820	1020	10.4	8.9	17	5,700	1
Total	33	867	1070	10.4	9.3	17	28,400	6
Railway (at a 400ppm CoEq cut-off)								
Indicated	37	677	843	8.5	7.4	14	25,100	5
Inferred	24	650	821	9.0	7.7	14	15,300	3
Total	61	667	834	8.7	7.5	14	40,500	9
Big Hill (at a 400ppm CoEq cut-off)								
Indicated	11	629	767	6.7	6.2	12	6,800	1
Inferred	7	553	678	6.2	5.6	11	3,900	1
Total	18	599	732	6.5	6.0	11	11,000	2
Total (at a 400ppm CoEq cut-off)								
Measured	18	928	1150	10.7	9.9	19	17,100	3
Indicated	55	679	841	8.3	7.3	14	37,500	8
Inferred	38	663	831	8.8	7.5	14	24,900	5
Total	111	715	889	8.9	7.8	15	79,500	16

(CoEq = Co ppm + S % * 22.235).

Data is reported to significant figures to reflect appropriate precision and may not sum precisely due to rounding.

Source: Cobalt Blue Holdings Ltd

These estimates of Mineral Resources were first announced by Cobalt Blue Holdings Ltd in *Thackaringa – Significant Mineral Resource upgrade – 4 April 2019*. The Company confirms that it is not aware of any new information or data that materially affects the information included in that announcement, and all material assumptions and technical parameters underpinning the estimates in that announcement continue to apply and have not materially changed.

Significant Defined Resources since 2017



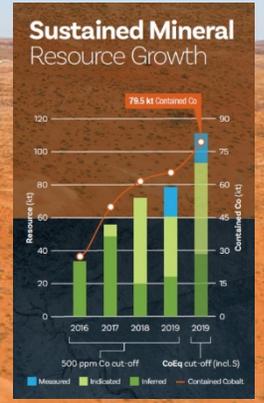
66% Measured and Indicated

79,500t
contained cobalt

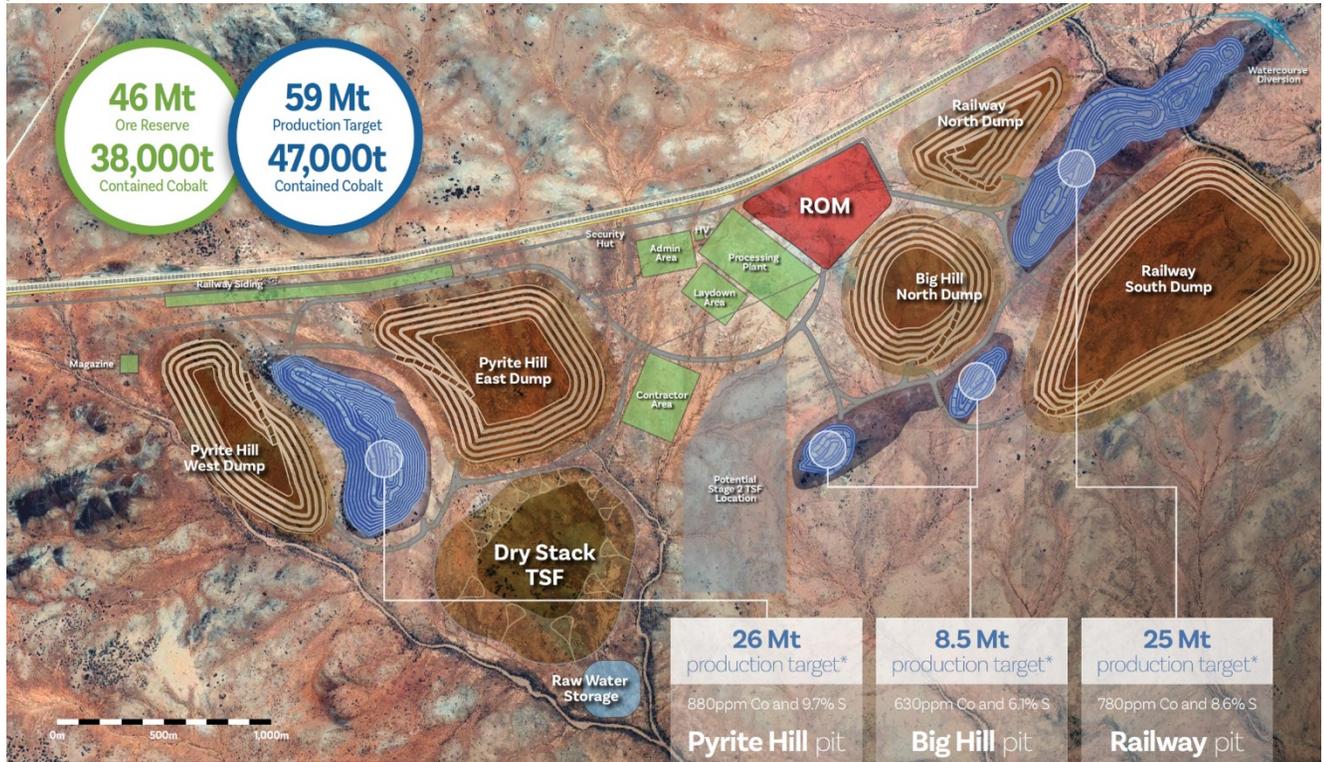


The deposits outcrop with sulphide often preserved at the surface

30,000m drilled since 2016, delivering a **235% increase** in resource tonnes and **189% uplift** in contained cobalt

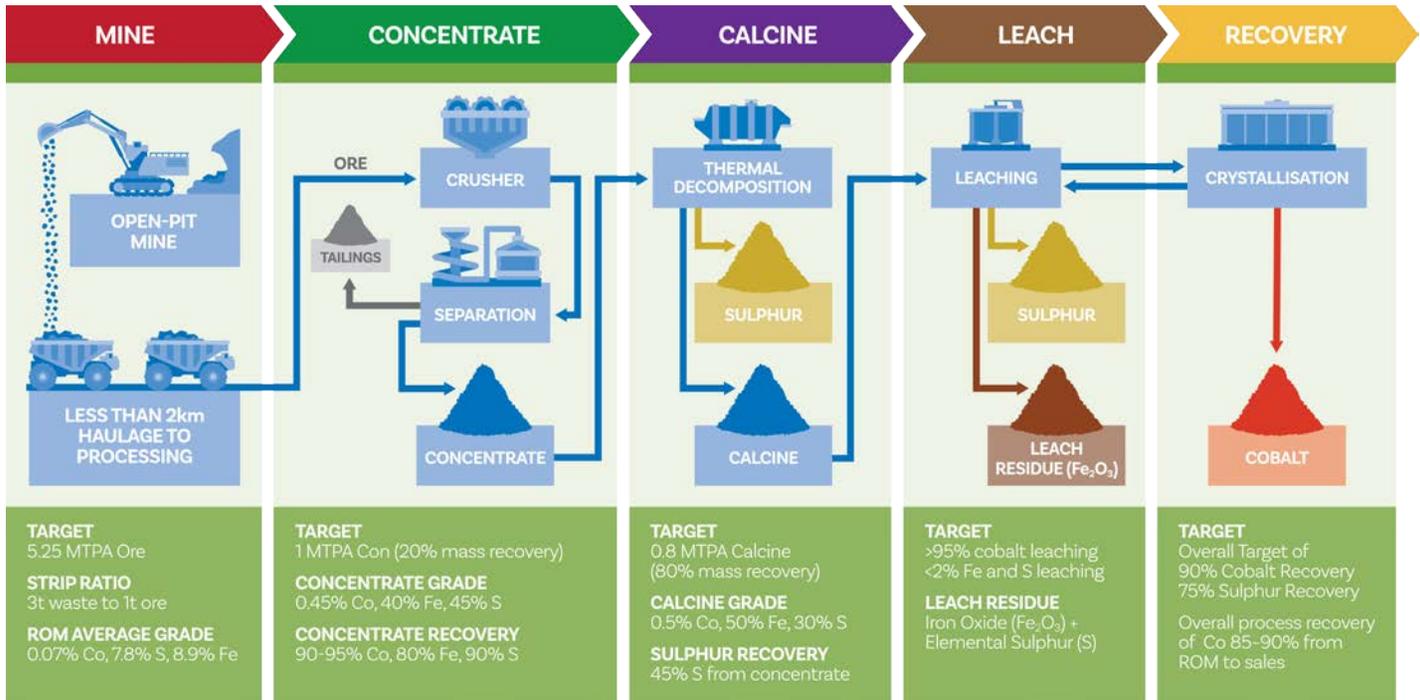


Maiden Ore Reserve and PFS Site Layout



These Ore Reserves and production target were first announced in ASX announcement 'Thackaringa Cobalt Project Pre-Feasibility Study' on 4 July 2018. The Company is not aware of any new information or data that materially affects the information included in the relevant announcement and, that all material assumptions and technical parameters underpinning the estimates in the relevant announcement continue to apply and have not materially changed.

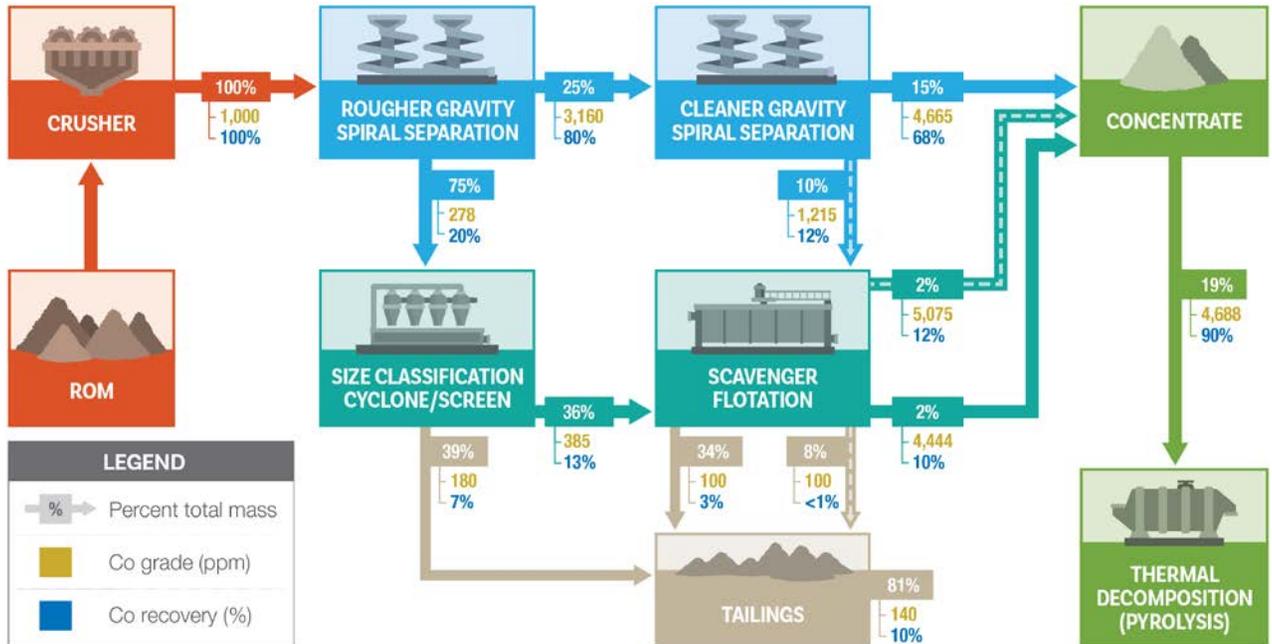
Cobalt Sulphate Production Flowsheet



Concentrate Circuit Pilot Trial – June 2019



Successful 45t pilot concentration trial: Concentrate recovery 90% Co, mass pull 19%



Metallurgical Process Testwork

Progressive increase in scale of testwork, growing confidence in commercial application of minerals processing technology

Study Level	Period	Concentrate Circuit		Pyrolysis Circuit		Leaching/Purification	
Scoping Study	FY2017	20-30 kg	Lab scale	1 kg	Lab scale	1 kg	Lab scale
Pre-Feasibility Study	FY2018	820 kg	Bulk trial in batch mode	100 kg	2-3 kg batches	30 kg	0.2-1 kg batches
Current Work to date	FY2019	45 tonne	Continuous pilot circuit 2-3 t/hr	150 kg	Continuous pilot circuit 4-8 kg/hr	20 kg	1-3 kg batches
Planned Work	Future	45-50 t	Full circuit	Up to 20 t	Commercial sized furnace	Up to 20 t	Pilot equipment



Ore
Pyrite/Albite



Concentrate
Pyrite - FeS₂



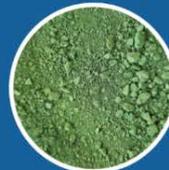
Calcine
Pyrrhotite - Fe₇S₈



Elemental Sulphur



Leach Residue
Fe₂O₃



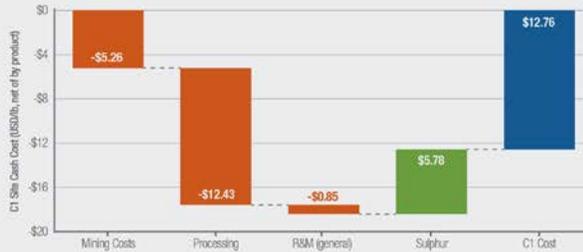
Co-Ni Mixed Hydroxide



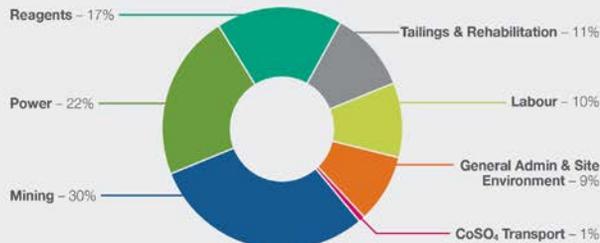
Cobalt Sulphate
CoSO₄·7H₂O

PFS Estimates – resilient C1 cash costs

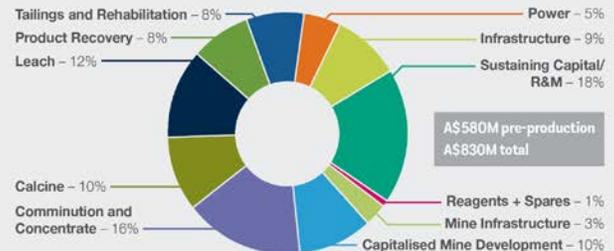
PFS – forecast resilient C1 costs



Life of Mine C1 cost breakdown



Life of Mine CAPEX



Post PFS – Options Studies FY19-20

- Target 20+ year mine life, through exploration and growth of mineral resources
- Metallurgical pilot plant trials on 90 t of ore samples to produce cobalt sulphate and elemental sulphur for market assessment
- Evaluation of power demand and supply for processing plant
- Optimise strategy for mine waste rock and process plant tailings management and long-term site rehabilitation
- Update capital and operating cost estimates



Section 3: Beyond Broken Hill



Process Technology - Project Evaluation

Testwork co-operation agreement signed with GEMC:

- ❑ Global Energy Metals Corporation (GEMC) has recently acquired the Millennium Co-Cu-Au Deposit near Mount Isa, Australia
- ❑ COB plans to test the applicability of its proprietary minerals processing technology to cobalt-pyrite material from the Millennium Project

Millennium Project Location

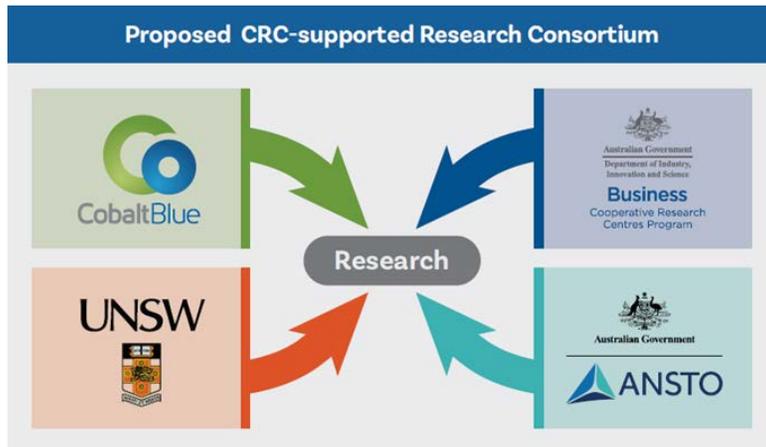
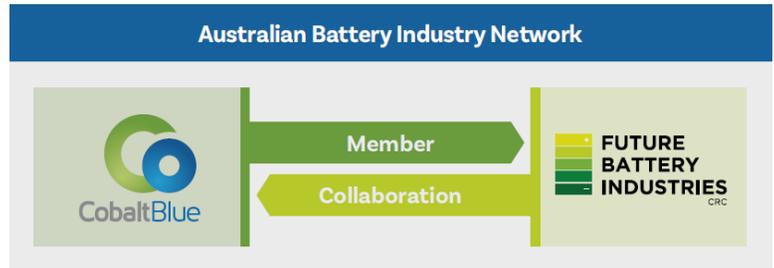


Millennium Project



Australian Critical Minerals

Participating with Australian industry and researchers to develop processing pathways for refined battery raw materials



Application for grant from CRC-Project Program Round 7

- COB led consortium for pilot scale optimisation of the recovery of cobalt from pyrite

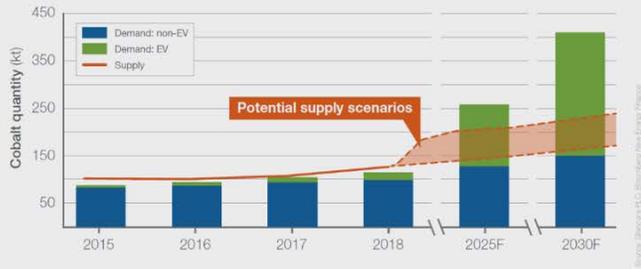
Section 4: Cobalt Market Evolution



Long-term cobalt market deficit looming

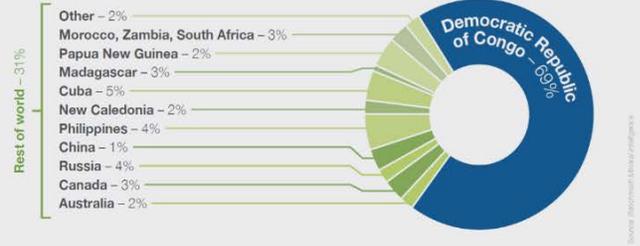
Strong fundamentals, underpinned by EV adoption

As demand accelerates, securing cobalt will be the key...

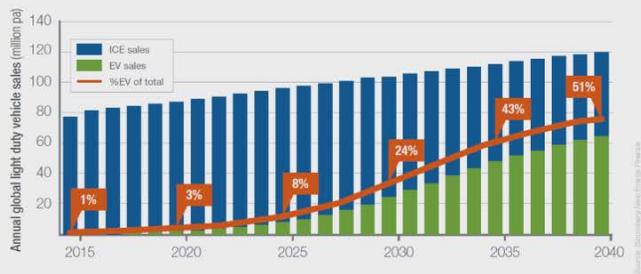


High proportion of supply from the DRC poses a risk

Cobalt raw material supply 2018

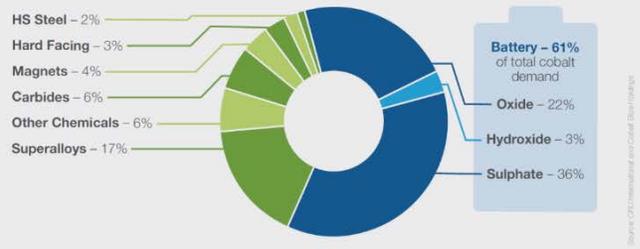


EV sales are a key driver of future cobalt demand



Batteries consume 61% cobalt production in 2026, from 53% today

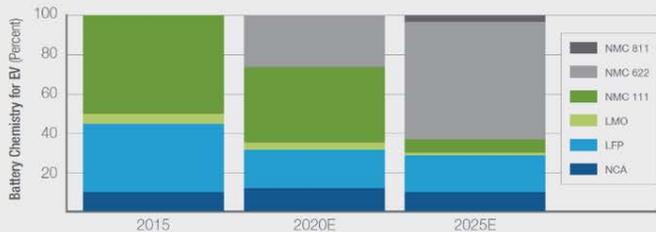
Cobalt demand 2026 - forecast



Cobalt in EV batteries

Cobalt is critical to lithium ion battery safety and performance

NMC 622 to be the dominant chemistry for the next decade

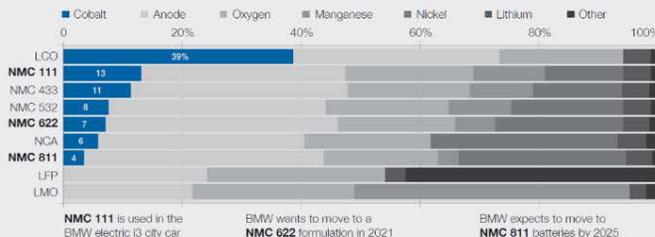


NMC/NCA battery chemistry = EV sweet spot

NMC and NCA batteries possess a **desirable blend of performance, affordability and ability to manufacture at scale.**



Battery chemistry: cathode evolution



Why cobalt for EV batteries?

Cobalt is a critical safety component of lithium ion batteries:

- Cobalt is essential for stopping a battery from overheating
- Cobalt provides stability for multiple charge and discharge cycles, underpinning multiple year battery lives for EVs
- Cobalt will not be engineered out of lithium ion batteries in the foreseeable future

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Competent Persons Statement

COMPETENT PERSONS STATEMENT

The information in this report that relates to Exploration Targets, Exploration Results, and Mineral Resources is based on information compiled by Mr Peter Buckley, a Competent Person who is a Member of The Australian Institute of Geoscientists (MAIG). Mr Buckley is employed by (Left Field Geoscience Services) and engaged by Cobalt Blue Holdings on a consulting basis. Mr Buckley has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Buckley consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The revised Mineral Resource was independently prepared by SRK Consulting using a Co-Kriging ('CK') method of estimation, suitable for the style of mineralisation. Mr Danny Kentwell, Principal Consultant (Resource Evaluation) at SRK Consulting, was engaged to estimate the Mineral Resource as the independent Competent Person. The Mineral Resource has been estimated and reported in accordance with the guidelines of the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Minerals Resources and Ore Reserves ('2012 JORC Code').

The information in this report that relates to Ore Reserves is based on information compiled by Dean Basile, who is a Competent Person and is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Dean Basile MAusIMM (CP) is a full-time employee of Mining One (at the time of estimation). Dean Basile has had sufficient experience that is relevant to the style of mineralisation and the type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dean Basile consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

The information in this report that relates to Metallurgical Testwork Results or Engineering Design Studies is based on, and fairly represents, information and supporting documentation prepared by Dr Andrew Tong, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Dr Andrew Tong is engaged by Cobalt Blue Holdings as Executive Manager. Dr Andrew Tong has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Andrew Tong consents to the inclusion in the report of the matters based on his information in the form and context in which they appear.