Market Update

18 November 2025

Highlights

Cobalt Blue Holdings Limited

ASX Code: **COB**

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Cobalt Blue to Advance Black Mass Recycling at Broken Hill Technology Centre

Key Points

- COB is shifting the focus of the Broken Hill Technology Centre (**BHTC**) to assess the viability of processing battery black mass as a domestic feedstock source for the Kwinana Cobalt Refinery (**KCR**).
- The initiative contributes to de-risking KCR while potentially creating modest near-term revenue opportunities from BHTC operations.
- Following the signing of a non-binding MOU with Ecobatt[1] (Dec 2024), COB has successfully tested samples of battery black mass during 2025 for the extraction of cobalt, nickel and manganese.
- COB has received a non-binding Letter of Intent from Hartree Partners, LP (**Hartree**) signalling market demand for cobalt metal from BHTC's recycled feedstock.
- The project will help deliver Australia's Circular Economy Framework, advance Australia's battery recycling capability, and help embed Australia's role in supporting the critical minerals supply chain interests of its international partners.

Broken Hill Mayor Tom Kennedy said: *"It's extremely encouraging to see that Cobalt Blue is in a position to fast-track its transition to black mass recycling in Broken Hill, and Council is proud to have supported this project from the outset.*

Broken Hill has long been at the forefront of innovation in the mining and minerals industry, and this project represents a continuation of that legacy.

The transition to black mass recycling will provide a welcome boost for the city's economy and bolster local employment, and we wish Cobalt Blue every success in this exciting venture."

[1] Refer COB's ASX announcement 'Kwinana Refinery Update + Black Mass Agreement' dated 17 December 2024.

Broken Hill Technology Centre – Battery Black Mass Processing

COB has invested A$15M+ into BHTC since 2021. Originally built to validate the full flowsheet for the Broken Hill Cobalt Project (**BHCP**), the centre delivered the data that underpinned BHCP's feasibility studies through late 2023.

In 2024–2025, BHTC pivoted to optimising the KCR flowsheet using commercially available cobalt hydroxide and cobalt-nickel sulphides. These programs delivered two milestones[2]:

1. Production of cobalt sulphate that meets specifications provided by Iwatani; and
2. Production of LME-grade cobalt metal.

With testwork for the KCR largely completed, COB is advancing KCR toward a Final Investment Decision (**FID**)—securing offtake agreements, finalising project finance, and commencing pre-construction activities.

Validating black mass as a strategic feedstock

COB intends to focus efforts at BHTC on evaluating if battery black mass material recovered from recycled lithium-ion batteries can be used as a feedstock for KCR.

The target is to scale up from successful bench tests to a fully continuous circuit capable of producing cobalt metal, nickel hydroxide, and manganese sulphate.

The KCR business plan targets an initial production capacity of approximately 3,000 tonnes (Co contained) of cobalt sulphate and metal[3]. Early operations will rely on sourcing feed from imported cobalt hydroxide, while Australian nickel projects remain idle and are not producing cobalt-byproducts.

Should battery black mass prove to be a technically and commercially viable feedstock option for KCR, COB intends to integrate this material into the refinery's long-term business plan. This would boost operational flexibility to manage supply chain risks, and consolidate KCR as the gateway for both mined and recycled Australian cobalt units.

In addition to cobalt, recycled lithium-ion batteries also contain lithium, manganese, nickel, graphite, and base metals such as copper and zinc. Recovery of these metals to saleable products will enhance the commercial case for processing black mass.

What is black mass – and why it matters

Black mass is the high-value concentrate left after recycling lithium-ion batteries from EVs, mobiles, and electronics. Battery packs are dismantled, cells crushed, and contaminants removed—leaving a dense powder rich in cathode and anode metals like cobalt, nickel, manganese, lithium, and graphite.

Black mass is a traded commodity, with payability determined by metal content and prices quoted by major reporting agencies such as Fastmarkets and Platts. From a metallurgical perspective, it is an attractive feedstock due to its high-grade composition and amenability to leaching under atmospheric conditions. From a sustainability standpoint, processing black mass is an essential step in building out Australia's national circular economy capabilities.

Figure 1 - Black mass sample from EcoBatt.

Currently, only a small fraction of lithium-ion battery (**LiB**) waste is recycled in Australia. COB's partner EcoBatt estimate that the national recycling rate for household batteries is just 12%—one of the lowest rates in the OECD[4]. Most batteries end up in potentially hazardous stockpiles or in landfill. By advancing downstream battery reprocessing, COB is helping to build a self-sustaining domestic recycling market. Recovering minerals from recycled batteries will not only strengthen supply chain resilience but also reduce reliance on traditional mining.

[2] Refer COB's ASX announcement 'Broken Hill Technology Centre Update' dated 3 September 2025.
[3] Refer COB's ASX announcement 'COB to Progress Cobalt Nickel Refinery Project in 2024' dated 27 November 2023.
[4] https://www.ecobatt.com.au/growth-of-battery-recycling-being-realised/

BHTC - positioned for black mass processing

BHTC is well positioned for upgrading to treat black mass. With robust infrastructure already in place, the facility offers a low-cost, low-risk platform for adding new plant and equipment. Backed by an experienced workforce and a community that supports advanced mineral processing and regional diversification.

BHTC has access to a comprehensive network of engineering service providers with expertise in high-technology manufacturing, as well as a well-developed road and rail network linking to New South Wales, Victoria, and South Australia for both feedstock supply and product export. Additional advantages include access to licensed waste disposal facilities, existing planning and environmental permits, and a well-informed regulatory environment familiar with plant operations.

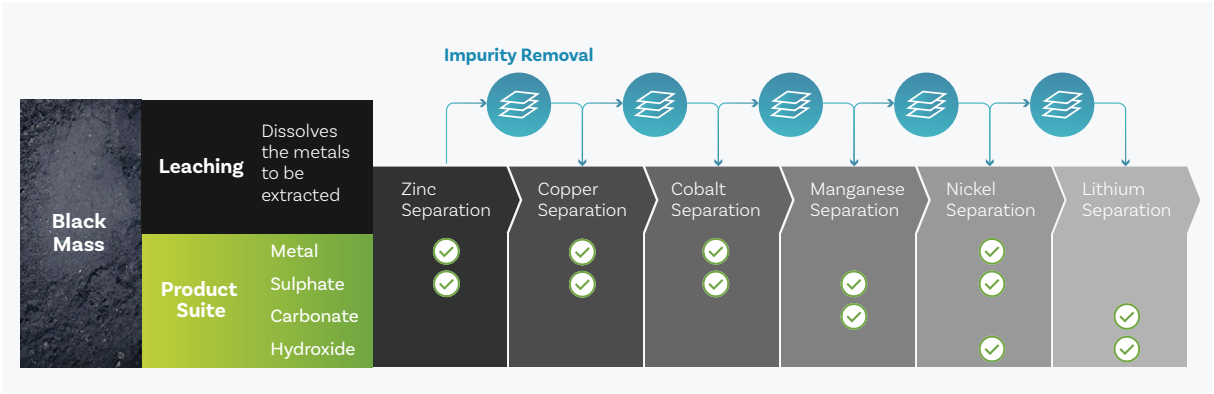
Figure 2 - Aerial view of the Broken Hill Technology Centre.

Figure 3 - Pressure oxidation and iron precipitation circuits at the Broken Hill Technology Centre.

COB's black mass technical capability

Throughout 2025, COB has undertaken systematic testwork on multiple black mass sources[5], including samples provided by EcoBatt and other domestic and international partners, to evaluate processing performance and product recovery.

Figure 4 - COB's black mass flowsheet.



COB has tested a range of black mass samples, with varying cobalt, nickel and manganese contents (Figure 5). The typical range for each metal has been 6-14% cobalt, 5-17% nickel, and 6-15% manganese. The extent of metal extraction is predictable (Figure 6), with metal extraction for cobalt, nickel and manganese directly proportional to acid consumption.

Figure 5 - Typical composition of battery black mass.

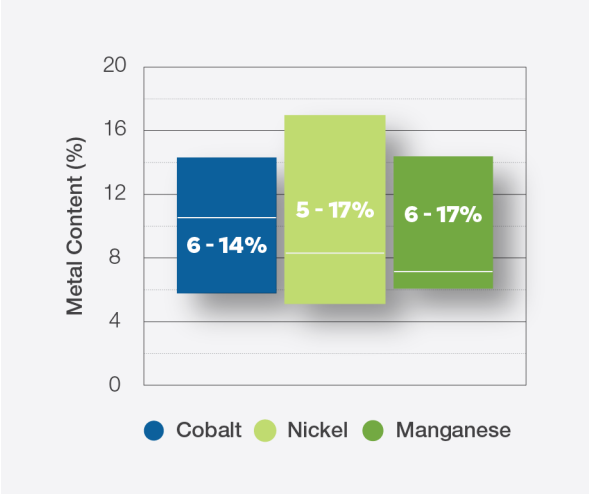
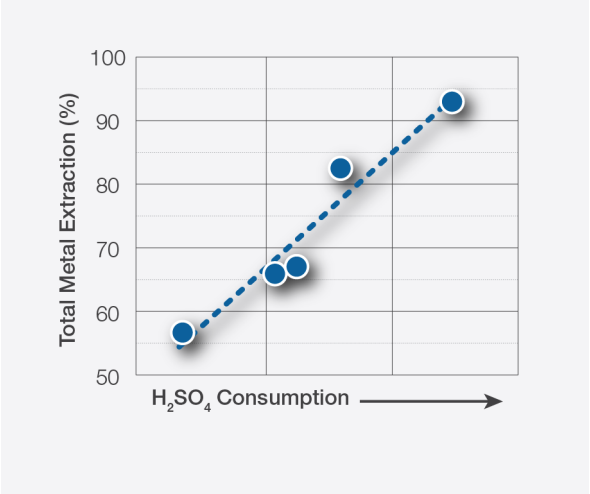


Figure 6 - COB's recent black mass recovery statistics.



In addition to validating black mass as a feedstock for KCR, COB also intends to evaluate the treatment of battery black mass to produce cobalt metal, nickel hydroxide, and manganese sulphate at BHTC. If successful, these initiatives may create a pathway to future product sales from BHTC and modest near-term revenue generation.

COB intends to explore opportunities for lithium and graphite from the black mass. If successful, these initiatives aim to position the company across a broader portfolio of critical minerals.

In addition to sourcing material from battery recyclers, COB is also evaluating other industrial by-products containing cobalt.

[5] Refer COB's ASX announcement 'Broken Hill Technology Centre Update' dated 3 September 2025.

Commercial Partnerships

The planned activities at BHTC's are supported by strategic partnerships. COB is progressing discussions with several domestic and international black mass suppliers as we assess opportunities for future long-term supply agreements.

EcoBatt

On 17 December 2024, COB announced that it had entered into a non-binding Memorandum of Understanding (**MOU**) with EcoBatt[6], a subsidiary of Ecocycle Pty Limited, to establish a strategic partnership focused on evaluating the processing of EcoBatt's black mass products into minerals to re-enter the battery supply chain.

Subject to successful testing, the parties intend to explore a potential commercial feedstock supply agreement. See the Media Release here.

Potential offtake partnership

COB has received a non-binding Letter of Intent (**LOI**) from Hartree Partners, LP (**Hartree**) for the potential purchase of cobalt metal from BHTC using feedstock from recycled battery black mass and other industrial waste materials. The LOI follows a preliminary review of COB's operations and, subject to further due diligence and mutually agreed terms, sets the stage for definitive agreements covering key commercial terms such as product price, quantity, quality, and delivery.

COB values the constructive engagement with Hartree and looks forward to progressing toward a long-term, collaborative partnership.

About EcoBatt

EcoBatt, part of the Ecocycle Pty Limited Group of Companies, is a leading force in sustainable battery management and critical mineral recovery in Australia. The company operates a comprehensive national battery collection network, featuring over 8,000 proprietary smart-sensor equipped cabinets, specialised bins, and drums, supported by a dedicated fleet of vehicles and skilled drivers. With strategically located company-owned sites in every capital city, EcoBatt processes batteries of all chemistries for recycling. Its state-of-the-art Campbellfield facility in Victoria incorporates advanced automated sorting technology and processing equipment, producing high-quality lithium-ion black mass rich in metals such as cobalt, nickel, and lithium. This resource underpins domestic and international battery manufacturing, strengthens Australia's circular economy for critical minerals, and positions EcoBatt as a key strategic partner for technology and refining companies seeking reliable, high-value feedstock.

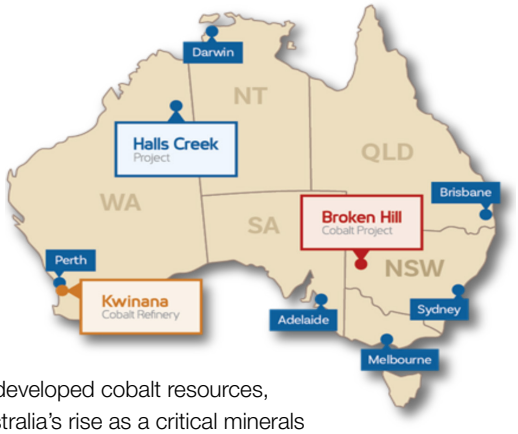
About Hartree Partners, LP

Hartree Partners, LP is a leading global merchant commodities firm. Formed in 1997, the firm focuses on identifying value in the production, refinement, transportation, and consumption of tradable commodities including: electric power, natural gas, natural gas liquids, refined metals products, crude oil, fuel oil, freight, metals, minerals and ore, carbon, agriculture, soft commodities, and petrochemicals, among others. Hartree is owned by its founders, other senior members of management, and funds managed by Oaktree Capital Management. The firm currently employs over 4,500 employees across 54 global offices.

[6] Refer COB's ASX announcement 'Kwinana Refinery Update + Black Mass Agreement' dated 17 December 2024.

Cobalt Blue Background

Cobalt Blue Holdings Limited is a minerals processing and mining company focused on developing midstream processing capabilities in Australia to diversify supply chains with like-minded countries. Cobalt Blue's assets include:



- **Kwinana Cobalt Refinery** (**KCR**): Australia's first dedicated cobalt refinery to produce high-purity cobalt sulphate for the lithium-ion industry and high-grade cobalt metal for defence and industry. Near-term development of KCR de-risks domestic mining projects by providing a refining facility capable of treating a variety of feedstocks.
- **Broken Hill Cobalt Project** (**BHCP**): One of the world's largest, undeveloped cobalt resources, BHCP is set to become a generational operation at the heart of Australia's rise as a critical minerals powerhouse. The project was recently granted a three-year extension to Major Project Status by the Commonwealth Government.
- **Broken Hill Technology Centre** ('**BHTC**'): Since 2021, COB has invested over A$15 million in BHTC to test and validate the complete flowsheet for BHCP – from mining through to production of cobalt sulphate, cobalt metal and elemental sulphur. It has also delivered key technological milestones that further strengthen the case for developing KCR.
- **Halls Creek Project**: Optionality for diversified commodity exposure via a low-cost copper-zinc-silver project with near-term exploration planned to test resource growth uplift.

Forward Looking Statements

This announcement contains "forward-looking statements". All statements other than those of historical fact included in this announcement are forward-looking statements. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward-looking statements are subject to risks, uncertainties, and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include but are not limited to cobalt metal price volatility, timely completion of project milestones, funding availability, and government and other third-party approvals. The Company is not obligated to release any revisions to any "forward-looking statement" publicly. To the maximum extent permitted by law, COB and its respective advisers, affiliates, related bodies corporate, directors, officers, partners and employees expressly exclude and disclaim all responsibility and liability, including, without limitation, for negligence or in respect of any expenses, losses, damages or costs incurred by any person as a result of their reliance on this ASX announcement and the information in this ASX announcement being inaccurate or incomplete in any way for any reason, whether by way of negligence or otherwise.

This announcement was authorised for release to the ASX by the board of Cobalt Blue Holdings Limited.

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