

# **Expected ROI of nickel manganese cobalt battery project in Australia 2030**





## Overview

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Why is battery mining important for the state's critical minerals industry?

While the production and processing of battery minerals is expected to remain the major driver of investment in the State's critical minerals sector in coming years, the mining and refining of other critical minerals will also support future industry development and diversification of the industry.

How much nickel can be recovered from NMC batteries?

Current recycling technologies can recover 84 % and 16 % of the nickel from spent NCA and NMC batteries, respectively. Overall, the nickel demand in the battery sector is expected to grow by 58 % from 2010 to 2030 . 2.2.

Could a cobalt shortage be a problem in the DRC?

By 2030, the competition between the battery and steel sectors could lead to shortages. The Democratic Republic of Congo (DRC) accounts for 64% of the world's cobalt production, much of which is a by-product of copper and nickel mining.

Does cobalt supply meet IEA demand scenarios for the year 2030?

Cobalt supply projection scenarios against the backdrop of IEA demand scenarios for the year 2030. Moving to the Optimistic Scenario (OS) estimates, which is a more ambitious outlook, cobalt supply at 376.2 kt, not only meets but also exceeds the needs of the Stated Policies and Announced Pledges Scenarios (285 kt).

Will battery chemistry reduce cobalt reliance?

Although battery chemistry is evolving to reduce cobalt reliance, McKinsey forecasts a 7.5% annual increase in absolute cobalt demand until 2030. This growth highlights issues around sourcing transparency and price volatility, with companies prioritising ethical and sustainable practices in response.



What is Class 1 nickel & how does it affect battery production?

Class 1 nickel, a high-purity form critical for batteries, currently sees around 65% of its production directed towards stainless steel. By 2030, competition between battery and steel sectors may exacerbate shortages, despite new mining projects in regions like Southeast Asia.



## Expected ROI of nickel manganese cobalt battery project in Australia

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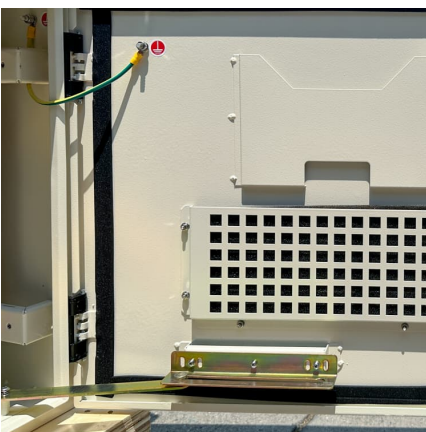


### [Strategic analysis of metal dependency in the](#)

NMC (Nickel-Manganese-Cobalt) and NCA (Nickel-Cobalt-Aluminum) battery production consumes 62 % and 31 % of this nickel, respectively. Secondary nickel production ...

### [The next nickel players in Australia](#)

Nickel cobalt aluminium (NCA) and nickel manganese cobalt (NMC) lithium-ion batteries are two of the most commonly used batteries in the EV manufacturing process. NCAs and NMCs contain 80 per cent and 33 per ...



### [EV battery types explained: Lithium-ion vs ...](#)

NMC batteries also require expensive, supply-limited and environmentally unfriendly raw materials - including lithium, cobalt, nickel and manganese. On the other hand, due ...

### [Nickel Demand to Triple by 2030: Can the Market](#)

...

But most of these vehicles use LFP batteries, limiting the impact on nickel demand. Additionally, battery producers are leaning



toward mid-nickel NCM chemistries. These offer better thermal stability and reduce the risk ...



### Downstream Nickel Project

The proposed Integrated Battery Material Facility (IBMF) would harness the IGO ProcesSTM that has been proven to produce nickel rich battery grade chemicals at a lower cost and lower ...

### Nickel Power: Will Demand for EVs Drive Supply to New Heights by 2030?

As of 2023, global nickel production reached 3.6 million tonnes, with Indonesia and the Philippines supplying nearly 60% of the world's nickel. By 2030, demand for nickel in ...



### What Impact are EVs and Renewables Having on Raw Materials?

The Democratic Republic of Congo (DRC) produces 64% of the global cobalt output, largely as a by-product from copper and nickel mining. Despite the decreasing role of ...



### Will the EU have enough minerals to drive their electric dreams by 2030

Following these strategies, plans, and regulations, the widespread production, promotion, and adoption of battery-electric cars (BEVs) got underway with the intention of ...



### [McKinsey: How Sustainable is the 2030 Battery Supply?](#)

Here, Scope 3 Magazine takes a closer look at key materials including lithium, nickel, cobalt and manganese as McKinsey reveals the complexities of ensuring a sustainable ...

### In-Use EV Battery LCA

Lithium nickel cobalt aluminium (NCA: 8:1.5:0.5), and Both high and low impact scenarios are modelled to illustrate the risk and opportunity presented through sourcing materials and ...



### A Deep Dive into Lithium-Ion Battery Manufacturing in ...

Lithium Nickel Manganese Cobalt Oxide (NMC) (LiNiMnCoO<sub>2</sub>) An NMC battery contains one of the most successful nickel-manganese-cobalt cathode combinations. An NMC battery, also referred to as CMN, MNC, and ...



### Lithium nickel manganese cobalt oxides

Lithium nickel manganese cobalt oxides (abbreviated NMC, Li-NMC, LNMC, or NCM) are mixed metal oxides of lithium, nickel, manganese and cobalt with the general formula  $LiNi_x Mn_y Co_z$  ...



### **Lithium-ion Battery Market Size, Share & Growth Report, 2030**

Lithium-ion Battery Market Summary The global lithium-ion battery market size was estimated at USD 54.4 billion in 2023 and is projected to reach USD 182.5 billion by 2030, growing at a ...

### **Commission selects 47 strategic projects to secure access to raw**

Notably, multiple initiatives focus on lithium (22), nickel (12), cobalt (10), manganese (7), and graphite (11), strengthening the EU battery value chain. With these efforts, ...



### **Cobalt Market Report 2022**



Nickel-cobalt-manganese (NCM) chemistries became the largest driver of cobalt demand, above all other end-use markets. 2022 was the first year in which lithium cobalt oxide (LCO) demand ...

### [The Investment Case for Lithium Battery Technology](#)

Executive Summary The rate at which the global automotive market is adopting electric vehicles (EVs) is accelerating at a rapid pace, creating significant opportunities for investment in battery ...



### **Battery growth in Australia showing positive signs but 2030 ...**

An analysis of battery storage investments in Australia published by Wood Mackenzie late last year indicated a positive outlook for battery storage profitability, driven by ...

### [Nickel, cobalt, manganese: Andrew Forrest and IGO ...](#)

The plans to make the nickel, manganese and cobalt precursor material at Kwinana are not certain to go ahead and remain subject to a final ...



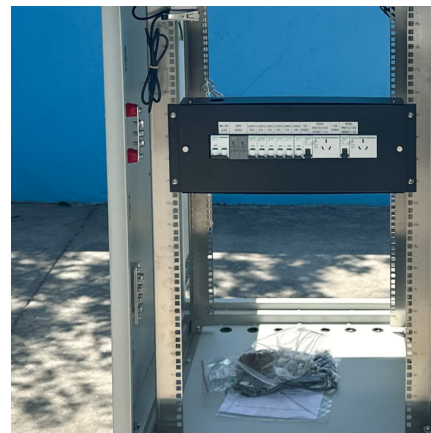


## Annual Mining Report 2025

Shift in battery chemistry reshaping minerals demand By 2035, lithium iron phosphate and lithium manganese iron phosphate are set to dominate EV cathode chemistries due to their higher ...

### [McKinsey: Is the 2030 Battery Supply Sustainable?](#)

McKinsey reveals 2030 battery raw material outlook on lithium, nickel and cobalt as demand for these materials may soon outstrip base-case supply The electrification of ...



### [Comparing NMC and LFP Lithium-Ion Batteries for C&I...](#)

In a previous article, we discussed how a lithium-ion battery works and provided an introduction to NMC and LFP batteries. Let's dive into the details further. NMC Batter y ...

### [McKinsey: EV Growth Tests Raw Material Supply Chains](#)

A McKinsey report warns that base-case supply may fall short of demand, leading to shortages, price fluctuations and substantial investment requirements. Here, we explore the ...



### [Comparing NMC and LFP Lithium-Ion Batteries for ...](#)

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### [Manganese in Australia: Mines and Projects to Watch](#)

Interested in learning about manganese in Australia? Here's a breakdown of the country's manganese market and what to consider before diving in.



### [Navigating battery choices: A comparative study of lithium ...](#)

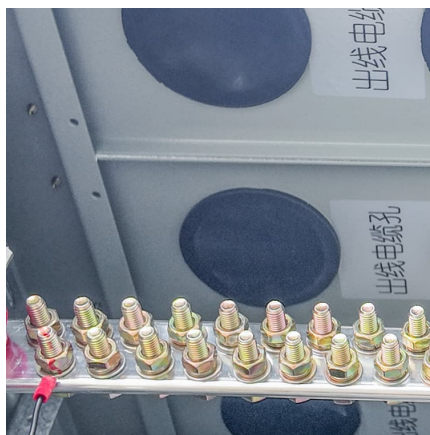
This research offers a comparative study on Lithium Iron Phosphate (LFP) and Nickel Manganese Cobalt (NMC) battery technologies through an extensive methodological approach that focuses ...





### Supply-demand imbalance looms for critical battery raw materials ...

While the share of cobalt in battery chemistry mix is expected to decrease, the absolute demand for cobalt for all applications could rise by 7.5% a year from 2023 and 2030, ...



### [Critical minerals outlook: What is in store for 2025?](#)

Price predictions for cobalt, lithium, nickel, and manganese in 2025 will be influenced by shifts in demand, technological breakthroughs and geopolitical developments. ...

### Nickel Manganese Cobalt (NMC) Battery Market Forecasts to 2030 ...

Nickel Manganese Cobalt (NMC) Battery Market Forecasts to 2030 - Global Analysis By Type (NMC 622, NMC 532 and NMC 111), Application (Commercial, Consumer ...



### [NCM Battery VS LFP Battery? This is the most ...](#)

2. How to evaluate power battery performance? It is well known that the lithium-ion battery consists of cathode material, anode material, diaphragm and electrolyte, of which the cathode material costs up to 30%, and ...



### [The global cobalt market: outlook to 2030](#)

Within the global hierarchy of critical minerals that miners are racing to extract, cobalt remains highly sought after. We explore the cobalt market outlook to 2030. Generally mined as a by-product of copper or nickel, the ...



### **Top 10 biggest nickel projects**

According to previous owner Kurora, Dumont is a shovel-ready and permitted nickel-cobalt-PGM development project, expected to produce an average of 39,000 tonnes of nickel over a 30-year mine life at all-in sustaining ...

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