Expected ROI of nickel manganese cobalt battery project in Zambia 2025

Could a cobalt sulfate plant be viable in Zambia?
Plans for a cobalt sulfate plant are advancing in Zambia, and World Bank analysis suggests a plant could also be viable in the DRC. Production of nickel and manganese sulfate is less certain, however. Zambia produced around 4,000 t of nickel in 2022.

Can China influence cobalt production in the DRC and Zambia?
China's dominance of cobalt production in the DRC and Zambia,including through state-owned companies,means it could have a significant influence on the precursor plant,but its role is uncertain. Congolese and Zambian civil society actors are concerned about the lack of information and limited stakeholder consultation.

How much is a cobalt project worth in Zambia?
The project has a net present value (NPV) of $166 millionand an internal rate of return (IRR) of 47%,based on a long-term copper price of $3 per pound and a cobalt price of $20 per pound. I Zambia has significant potential to increase its cobalt production in the coming years,as new projects come online and existing ones resume operations.

Why did cobalt production decline in Zambia?
The main reason for the decline in production was the suspension of operations at Mopani Copper Mines(MCM),which accounted for about 80% of Zambia's cobalt output. MCM is a joint venture between ZCCM Investments Holdings (ZCCM-IH),a state-owned company,and Glencore,a multinational mining and trading company.

Will Zambia meet its own nickel production needs?
First Quantum's large nickel mine,Enterprise,started production in Zambia this year,which will add a massive 30,000 t a year on average. Nevertheless,this volume may still be insufficientfor Zambia to meet the precursor plant's needs on its own even if refining facilities were constructed and all production was supplied to the plant.

Does Zambia produce nickel & manganese sulfate?
Production of nickel and manganese sulfate is less certain,however. Zambia produced around 4,000 t of nickel in 2022. First Quantum's large nickel mine,Enterprise,started production in Zambia this year,which will add a massive 30,000 t a year on average.

CAPE TOWN, South Africa, August 6, 2025 -- Zambia"s Ministry of Mines and Minerals Development has outlined the vast critical mineral opportunities available across the country in ...

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This report uncovers the evolving critical materials demand trends for lithium-ion batteries and provides comprehensive overviews on mineral extraction and processing technology advancements, and market supply outlooks for five key ...

Even with the expected increase in high nickel/low cobalt manganese (NCM) and cobalt-free lithium-iron-phosphate (LFP) batteries, as well as other emerging cobalt-free battery ...

CAPE TOWN, South Africa, August 6, 2025 -- Zambia"s Ministry of Mines and Minerals Development has outlined the vast critical mineral opportunities available across the ...

Introduction This article is one of a series of five working papers examining the global value chains (GVCs) for the key raw materials--cobalt, lithium, graphite, and nickel--that are critical to the ...

In 2025, the global cobalt market will continue to be shaped by two dominant trends: oversupply and shifts in battery chemistries. However, Prices -subdued by excess supply since 2023- are expected to remain stable, with limited volatility. ...

The Detroit Big Three General Motors (GMs), Ford, and Stellantis predict that electric vehicle (EV) sales will comprise 40-50% of the annual vehicle sales by 2030. Among the key components of LIBs, the ...

The report includes an in-depth analysis of the Global Nickel Manganese Cobalt Battery Market, including market size and trends, Interface mix, Applications, and supplier analysis. The Global ...

GM says the new cells will be cheaper for a few reasons. For one, manganese is cheaper than cobalt or nickel. The LMR chemistry will have 0-2% cobalt, 30-40% nickel, and 60-70% manganese.

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 Composition NMC batteries are a type of lithium ...

3 ???· Over the projected 57-year mine life, the project is expected to produce more than 3.5 million tonnes of HPMSM. The K.Hill deposit is estimated to contain over 2.2 million tonnes of ...

In this blog, we touch on the most recent trends in demand for lithium, cobalt, and nickel-what the future might hold for the electric vehicle market in 2025-and go through the ...

5 ???· Zambia is one of the countries that produce cobalt, mainly as a by-product of copper mining. In this article, we will review the cobalt production in Zambia and some of the major projects that are underway or planned.

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Demand for battery raw materials will outpace base-case supply for certain materials, requiring additional investment and leading to fear of shortages and price volatility, among other challenges ...

Zambia"s Ministry of Mines and Minerals Development has outlined the vast critical mineral opportunities available across the country in a report released in collaboration ...

The sulfates for cobalt, nickel and manganese are combined in various ratios depending on the chemistry type to form the precursor cathode active material (precursors). The precursors are ...

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