

Global Cobalt Market: Analysis By Form (Chemical and Metal), By Mined Supply, By Refined Supply, By Type (Primary and Secondary), By Demand, By Application (Batteries and Non-Batteries), By Region Size and Trends with Impact of COVID-19 and Forecast up to 2028

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Abstracts

The global cobalt market was valued at US\$9.48 billion in 2022. The market value is expected to reach US\$17.68 billion by 2028. The global cobalt market mined supply stood at 205.30 kilotonnes in 2022. Whereas, The cobalt market demand is projected to rise to 267.33 kilotonnes by 2028. Cobalt is a hard ferromagnetic, silver-white, hard, lustrous, brittle element. It is a member of group VIII of the periodic table.

Cobalt is an important raw material for the production of battery materials, superalloys, high-temperature alloys, cutting tools, magnetic materials, petrochemical catalysts, pharmaceuticals, and glaze materials. Owing to the benefits provided by the cobalt and the wide applications it serves, the cobalt market has been growing in the past few years. Moreover, there are several new cobalt projects in development, which are expected to increase the supply of cobalt in the coming years. These projects are located in countries such as Australia, the Democratic Republic of the Congo (DRC), and Morocco. This would help to meet the growing demand for cobalt and stabilize the price of cobalt, resulting in market growth. The cobalt market is expected to grow at a CAGR of approx. 11.0% over the projected period of 2023-2028.

Market Segmentation Analysis:

By Form: The report provides the bifurcation of the global cobalt market based on the

form: Chemical and Metal. The chemical segment held the highest share of the market and is expected to be the fastest-growing segment in the forecasted period. Metallic cobalt's magnetic properties make it valuable for producing high-performance magnets used in electric motors, generators, and other devices. Hence, the increase in the use of electric motors and other devices increases the demand for metallic cobalt, leading to market growth.

By Mined Supply: In 2022, the surge in cobalt production was driven by increases in the Democratic Republic of Congo — which accounts for about 70% of global supply — as well as Indonesia, an emerging powerhouse in the small but rapidly growing market. Mine production is set to increase over the next years, driven by further increases in Congo and Indonesia.

By Refined Supply: As various industries, including electronics, renewable energy, and transportation, experience growth and demand for cobalt-containing products, producers are ramping up their cobalt refining operations to meet this increased demand. On the other hand, improved recycling technologies and growing awareness of the importance of resource sustainability are expected to increase the recycling of cobalt-containing materials, adding to the refined supply in the forthcoming years.

By Type: The global cobalt market refined supply can be divided into two segments based on the type: Primary and Secondary. The primary segment held the highest share of the market, whereas the secondary segment is expected to be the fastest-growing segment in the forecasted period. Secondary supply is expected to progressively grow on increasing consumer battery demand. Spent EV batteries only get sizeable from 2025 given the 8-10 year typical battery warranty. It is expected that the contribution of secondary supply will steadily increase from 10% in 2022 to 12% by 2028. Therefore, the secondary supply of cobalt (scrap/recycled cobalt) today remains small scale but is expected to increase post-2025 as increasing quantities of EV batteries enter the recycling ecosphere.

By Demand: While cobalt is present in most portable devices that are part of daily lives, in 2022 EVs surpassed electronics as the major source of demand. The combination of EV purchase subsidies (part of the post-COVID economic stimulus in the EU and China) and the pandemic-driven shift in consumer spending patterns significantly accelerated demand for cobalt in EVs in 2020 and 2021. Geographically speaking, Asia is by far the largest cobalt-consuming region. This reflects the high concentration of battery materials production in Asia, particularly China, Japan, and South Korea.

By Application: The global cobalt market demand has been analyzed based on the following applications: Batteries and Non-Batteries. The battery segment held the highest share in the market and is expected to be the fastest-growing segment in the forecasted period. The batteries segment is further segmented based on types: Electric Vehicles, Electronics, Energy Storage Systems (ESS), and Power devices & Motive Products. The EU, the US, Japan, and China have continuously raised standards during the last 15 years for vehicle fuel economy and GHG emissions by incentivizing automotive manufacturers to develop electric alternatives to traditional internal combustion engine designs. And importantly, consumer preference is increasingly shifting toward owning a more environmentally friendly vehicle. Therefore, owing to these factors, the sale of EVs is increasing, which in turn is supporting the growth of cobalt.

By Region: The report provides insight into the cobalt market mined supply based on the regions namely, Congo (DRC), Indonesia, Russia, Australia, Canada, Cuba, Madagascar, and the Rest of the World. DRC held the held share of the market, whereas, Indonesia is expected to be the fastest-growing region in the coming years. New measures to regularize the artisanal and small-scale mining (ASM) sector in the DRC, including the creation of a new state-owned company to buy and market all ASM cobalt, as well as the responsible sourcing initiatives implemented by the industry, would ensure the cobalt supply chain is more transparent and that the cobalt on international markets is procured in a safe and ethical manner and free of child labor. This is expected to further support the cobalt market growth in DRC in the forthcoming years.

The Indonesian higher cobalt production itself has come from four new high-pressure acid leaching (HPAL) facilities that process ore to produce both nickel and cobalt in mixed hydroxide precipitate, which can then be exported. The first two HPAL operations came online in 2021 as part of the existing Indonesia Morowali Industrial Park. More facilities are on the way, including the US\$2.6 billion Sonic Bay nickel-cobalt hydrometallurgical complex, which is being developed in a partnership between Eramet and chemical producer BASF. Therefore, there are lucrative growth prospects for the cobalt market to grow in the Indonesian region in the forthcoming years.

Market Dynamics:

Growth Drivers: The global cobalt market growth is predicted to be supported by numerous growth drivers such as escalating demand for EV batteries, increasing adoption of renewable energy sources, increasing nickel and copper production, and

many other factors. Electric vehicles require larger and more advanced batteries compared to traditional internal combustion engine vehicles. These batteries contain a significant amount of cobalt in their cathode materials. Therefore, as the production of electric vehicles ramps up, the demand for cobalt increases proportionally to meet the requirements of battery manufacturers.

Challenges: However, the market growth would be negatively impacted by various challenges such as price volatility, resource scarcity, etc. Price volatility can make it difficult for buyers and sellers to agree on long-term contracts, which are important for ensuring stable supply relationships and planning for future demand. Therefore, these challenges are hampering the market growth.

Trends: The market is projected to grow at a fast pace during the forecast period, due to various latest trends such as increasing exploration and development of cobalt deposits, sustainable mining practices, increasing green financing, increasing establishment of battery gigafactory, etc. Increasing exploration and development of cobalt deposits is essential for ensuring a stable, sustainable, and resilient cobalt market. By meeting growing demand, stabilizing prices, mitigating supply chain risks, and fostering innovation, this effort contributes to the overall growth of the cobalt industry and its role in supporting clean energy and technological advancements.

Impact Analysis of COVID-19 and Way Forward:

The COVID-19 pandemic had a significant impact on the global cobalt market, affecting both supply and demand dynamics. Many cobalt mines around the world had to temporarily shut down or reduce production due to lockdowns, restrictions, and health concerns for workers. This led to supply chain disruptions and reduced availability of cobalt. Whereas, the demand for cobalt used in batteries, including those for electric vehicles (EVs), energy storage systems, and electronics, continued to increase in 2020. Also, the push toward electric mobility gained further momentum post-COVID-19, as governments and automakers continued to prioritize electric vehicle adoption as part of their strategies for reducing emissions and meeting environmental targets.

Competitive Landscape:

The global cobalt market is fragmented, with several key players operating on a global scale. The key players in the global cobalt market are:

Glencore Plc

Umicore

Vale S.A.

Jinchuan Group International Resources Co. Ltd.

Zhejiang Huayou Cobalt Co., Ltd.

Sheritt International Corporation

BHP Group Limited

Norilsk Nickel

Eramet Group

CMOC Group Limited

Sumitomo Corporation

Jervois Global Limited

In 2022, Glencore produced 43.80 kilotonnes of cobalt. Also, In 2022, Glencore and General Motors Co. announced a multi-year sourcing agreement in which Glencore would supply GM with cobalt from the company's Murrin Murrin operation in Australia.

Contents

1. EXECUTIVE SUMMARY

2. INTRODUCTION

2.1 Cobalt: An Overview

2.1.1 Introduction to Cobalt

2.1.2 Uses of Cobalt

2.2 Cobalt Segmentation: An Overview

2.2.1 Cobalt Segmentation

3. GLOBAL MARKET ANALYSIS

3.1 Global Cobalt Market: An Analysis

3.1.1 Global Cobalt Market: An Overview

3.1.2 Global Cobalt Market by Value

3.1.3 Global Cobalt Market by Form (Chemical and Metal)

3.2 Global Cobalt Market: Form Analysis

3.2.1 Global Cobalt Market by Form: An Overview

3.2.2 Global Chemical Cobalt Market by Value

3.2.3 Global Metal Cobalt Market by Value

3.3 Global Cobalt Market: Mined Supply Analysis

3.3.1 Global Cobalt Market by Mined Supply: An Overview

3.3.2 Global Cobalt Market by Mined Supply

3.3.3 Global Cobalt Market Mined Supply by Source (Copper, Nickel, Primary Cobalt, and Others)

3.3.4 Global Cobalt Market Mined Supply by Region (Congo (DRC), Indonesia, Russia, Australia, Canada, Cuba, Madagascar, and Rest of the World)

3.4 Global Cobalt Market: Refined Supply Analysis

3.4.1 Global Cobalt Market by Refined Supply: An Overview

3.4.2 Global Cobalt Market by Refined Supply

3.4.3 Global Cobalt Market Refined Supply by Type (Primary and Secondary)

3.4.4 Global Cobalt Market Refined Supply by Form (Chemical and Metal)

3.4.5 Global Cobalt Market Refined Supply by Region (China, Finland, Canada, Norway, Australia, Madagascar, DRC, Morocco, Russia, and Rest of the World)

3.5 Global Cobalt Market Refined Supply: Type Analysis

3.5.1 Global Cobalt Market Refined Supply by Type: An Overview

- 3.5.2 Global Cobalt Market by Primary Refined Supply
- 3.5.3 Global Cobalt Market by Secondary Refined Supply
- 3.6 Global Cobalt Market: Demand Analysis
 - 3.6.1 Global Cobalt Market by Demand: An Overview
 - 3.6.2 Global Cobalt Market by Demand
 - 3.6.3 Global Cobalt Market Demand by Application (Batteries and Non-Batteries)
 - 3.6.4 Global Cobalt Market Demand by Region (Asia Pacific, Europe, North America, Latin America, and Middle East and Africa)
- 3.7 Global Cobalt Market Demand: Application Analysis
 - 3.7.1 Global Cobalt Market Demand by Application: An Overview
 - 3.7.2 Global Batteries Cobalt Market by Demand
 - 3.7.3 Global Batteries Cobalt Market Demand by Type (Electric Vehicles, Electronics, Energy Storage System, and Power Devices & Motive Products)
 - 3.7.4 Global Batteries Cobalt Market Type by Demand
 - 3.7.5 Global Non-Batteries Cobalt Market by Demand
- 3.8 Global Cobalt Market: Reserve Analysis
 - 3.8.1 Global Cobalt Market by Reserves: An Overview
 - 3.8.2 Global Cobalt Market by Reserves

4. REGIONAL MARKET ANALYSIS

- 4.1 Congo (DRC) Cobalt Market Mined Supply: An Analysis
 - 4.1.1 Congo (DRC) Cobalt Market by Mined Supply: An Overview
 - 4.1.2 Congo (DRC) Cobalt Market by Mined Supply
- 4.2 Indonesia Cobalt Market Mined Supply: An Analysis
 - 4.2.1 Indonesia Cobalt Market by Mined Supply: An Overview
 - 4.2.2 Indonesia Cobalt Market by Mined Supply
- 4.3 Russia Cobalt Market Mined Supply: An Analysis
 - 4.3.1 Russia Cobalt Market by Mined Supply: An Overview
 - 4.3.2 Russia Cobalt Market by Mined Supply
- 4.4 Australia Cobalt Market Mined Supply: An Analysis
 - 4.4.1 Australia Cobalt Market by Mined Supply: An Overview
 - 4.4.2 Australia Cobalt Market by Mined Supply
- 4.5 Canada Cobalt Market Mined Supply: An Analysis
 - 4.5.1 Canada Cobalt Market by Mined Supply: An Overview
 - 4.5.2 Canada Cobalt Market by Mined Supply
- 4.6 Cuba Cobalt Market Mined Supply: An Analysis
 - 4.6.1 Cuba Cobalt Market by Mined Supply: An Overview
 - 4.6.2 Cuba Cobalt Market by Mined Supply

4.7 Madagascar Cobalt Market Mined Supply: An Analysis

4.7.1 Madagascar Cobalt Market by Mined Supply: An Overview

4.7.2 Madagascar Cobalt Market by Mined Supply

4.8 Rest of World Cobalt Market Mined Supply: An Analysis

4.8.1 Rest of World Cobalt Market by Mined Supply: An Overview

4.8.2 Rest of World Cobalt Market by Mined Supply

5. IMPACT OF COVID-19

5.1 Impact of COVID-19 on Global Cobalt Market

5.2 Post COVID-19 Impact on Global Cobalt Market

6. MARKET DYNAMICS

6.1 Growth Drivers

6.1.1 Escalating Demand for EV Batteries

6.1.2 Increasing Adoption of Renewable Energy Sources

6.1.3 Increasing Demand for Consumer Electronics

6.1.4 Rapid Urbanization

6.1.5 Increasing Nickel and Copper Production

6.1.6 Wide Range of Industrial Applications

6.1.7 Escalating Use in Chemical Industry

6.2 Challenges

6.2.1 Fluctuating Prices

6.2.2 Resource Scarcity

6.2.3 Environmental and Ethical Challenges

6.3 Market Trends

6.3.1 Integration of IoT in Cobalt Market

6.3.2 Increasing Exploration and Development of Cobalt Deposits

6.3.3 Technological Advancements

6.3.4 Sustainable Mining Practices

6.3.5 Increasing Recyclability and the Circular Economy

6.3.6 Favorable Government Initiatives

6.3.7 Increasing Green Financing

6.3.8 Increasing Establishment of Battery Gigafactory

7. COMPETITIVE LANDSCAPE

7.1 Global Cobalt Market Players by Cobalt Production

- 7.2 Global Cobalt Market Players: Resources Comparison
- 7.3 Global Cobalt Market Players: Ore Reserves Comparison
- 7.4 Global Cobalt Market Players: Operating Mines Comparison
- 7.5 Global Cobalt Market Players: Developing Mines Comparison

8. COMPANY PROFILES

8.1 Glencore Plc

- 8.1.1 Business Overview
- 8.1.2 Operating Segments
- 8.1.3 Business Strategy

8.2 Umicore

- 8.2.1 Business Overview
- 8.2.2 Operating Segments
- 8.2.3 Business Strategy

8.3 Vale S.A.

- 8.3.1 Business Overview
- 8.3.2 Revenue by Business Area
- 8.3.3 Business Strategy

8.4 Jinchuan Group International Resources Co. Ltd.

- 8.4.1 Business Overview
- 8.4.2 Operating Segments
- 8.4.3 Business Strategy

8.5 Zhejiang Huayou Cobalt Co., Ltd.

- 8.5.1 Business Overview
- 8.5.2 Revenue by Goods or Services
- 8.5.3 Business Strategy

8.6 Sherritt International Corporation

- 8.6.1 Business Overview
- 8.6.2 Operating Segments
- 8.6.3 Business Strategy

8.7 BHP Group Limited

- 8.7.1 Business Overview
- 8.7.2 Operating Segments
- 8.7.3 Business Strategy

8.8 Norilsk Nickel

- 8.8.1 Business Overview
- 8.8.2 Operating Segments
- 8.8.3 Business Strategy

8.9 Eramet Group

8.9.1 Business Overview

8.9.2 Turnover by Activities

8.9.3 Business Strategy

8.10 CMOC Group Limited

8.10.1 Business Overview

8.10.2 Operating Revenue by Category

8.10.3 Business Strategy

8.11 Sumitomo Corporation

8.11.1 Business Overview

8.11.2 Operating Segments

8.11.3 Business Strategy

8.12 Jervois Global Limited

8.12.1 Business Overview

8.12.2 Operating Segments

8.12.3 Business Strategy

List Of Figures

LIST OF FIGURES

Figure 1: Cobalt Segmentation

Figure 2: Global Cobalt Market by Value; 2018-2022 (US\$ Billion)

Figure 3: Global Cobalt Market by Value; 2023-2028 (US\$ Billion)

Figure 4: Global Cobalt Market by Form; 2022 (Percentage, %)

Figure 5: Global Chemical Cobalt Market by Value; 2018-2022 (US\$ Billion)

Figure 6: Global Chemical Cobalt Market by Value; 2023-2028 (US\$ Billion)

Figure 7: Global Metal Cobalt Market by Value; 2018-2022 (US\$ Billion)

Figure 8: Global Metal Cobalt Market by Value; 2023-2028 (US\$ Billion)

Figure 9: Global Cobalt Market by Mined Supply; 2018-2022 (Kilotonnes)

Figure 10: Global Cobalt Market by Mined Supply; 2023-2028 (Kilotonnes)

Figure 11: Global Cobalt Market Mined Supply by Source; 2022 (Percentage, %)

Figure 12: Global Cobalt Market Mined Supply by Region; 2022 (Percentage, %)

Figure 13: Global Cobalt Market by Refined Supply; 2018-2022 (Kilotonnes)

Figure 14: Global Cobalt Market by Refined Supply; 2023-2028 (Kilotonnes)

Figure 15: Global Cobalt Market Refined Supply by Type; 2022 (Percentage, %)

Figure 16: Global Cobalt Market Refined Supply by Form; 2022 (Percentage, %)

Figure 17: Global Cobalt Market Refined Supply by Region; 2022 (Percentage, %)

Figure 18: Global Cobalt Market by Primary Refined Supply; 2018-2022 (Kilotonnes)

Figure 19: Global Cobalt Market by Primary Refined Supply; 2023-2028 (Kilotonnes)

Figure 20: Global Cobalt Market by Secondary Refined Supply; 2018-2022 (Kilotonnes)

Figure 21: Global Cobalt Market by Secondary Refined Supply; 2023-2028 (Kilotonnes)

Figure 22: Global Cobalt Market by Demand; 2018-2022 (Kilotonnes)

Figure 23: Global Cobalt Market by Demand; 2023-2028 (Kilotonnes)

Figure 24: Global Cobalt Market Demand by Application; 2022 (Percentage, %)

Figure 25: Global Cobalt Market Demand by Region; 2022 (Percentage, %)

Figure 26: Global Batteries Cobalt Market by Demand; 2018-2022 (Kilotonnes)

Figure 27: Global Batteries Cobalt Market by Demand; 2023-2028 (Kilotonnes)

Figure 28: Global Batteries Cobalt Market Demand by Type; 2022 (Percentage, %)

Figure 29: Global Batteries Cobalt Market Type by Demand; 2018-2022 (Kilotonnes)

Figure 30: Global Batteries Cobalt Market Type by Demand; 2023-2028 (Kilotonnes)

Figure 31: Global Non-Batteries Cobalt Market by Demand; 2018-2022 (Kilotonnes)

Figure 32: Global Non-Batteries Cobalt Market by Demand; 2023-2028 (Kilotonnes)

Figure 33: Global Cobalt Market by Reserves; 2018- 2022 (Million Tonnes)

Figure 34: Global Cobalt Market Reserves by Region; 2022 (Million Tonnes)

Figure 35: Congo (DRC) Cobalt Market by Mined Supply; 2018-2022 (Kilotonnes)

- Figure 36: Congo (DRC) Cobalt Market by Mined Supply; 2023-2028 (Kilotonnes)
- Figure 37: Indonesia Cobalt Market by Mined Supply; 2020-2022 (Kilotonnes)
- Figure 38: Indonesia Cobalt Market by Mined Supply; 2023-2028 (Kilotonnes)
- Figure 39: Russia Cobalt Market by Mined Supply; 2018-2022 (Kilotonnes)
- Figure 40: Russia Cobalt Market by Mined Supply; 2023-2028 (Kilotonnes)
- Figure 41: Australia Cobalt Market by Mined Supply; 2018-2022 (Kilotonnes)
- Figure 42: Australia Cobalt Market by Mined Supply; 2023-2028 (Kilotonnes)
- Figure 43: Canada Cobalt Market by Mined Supply; 2018-2022 (Kilotonnes)
- Figure 44: Canada Cobalt Market by Mined Supply; 2023-2028 (Kilotonnes)
- Figure 45: Cuba Cobalt Market by Mined Supply; 2018-2022 (Kilotonnes)
- Figure 46: Cuba Cobalt Market by Mined Supply; 2023-2028 (Kilotonnes)
- Figure 47: Madagascar Cobalt Market by Mined Supply; 2020-2022 (Kilotonnes)
- Figure 48: Madagascar Cobalt Market by Mined Supply; 2023-2028 (Kilotonnes)
- Figure 49: Rest of World Cobalt Market by Mined Supply; 2018-2022 (Kilotonnes)
- Figure 50: Rest of World Cobalt Market by Mined Supply; 2023-2028 (Kilotonnes)
- Figure 51: Global Demand for EV Batteries; 2018-2025 (GWH)
- Figure 52: Global Net Renewable Capacity Additions; 2018-2022 (GW)
- Figure 53: Global Consumer Electronics Market Revenue; 2018-2023 (US\$ Billion)
- Figure 54: Share of Urban Population in Total Population by Group of Economies; 2016, 2021 & 2050 (Percentage, %)
- Figure 55: Global Nickel and Copper Mine Production; 2018-2022 (Million Tons)
- Figure 56: Global Cobalt Prices; 2017-2022 (US\$/Tonne)
- Figure 57: Global Number of Active IoT Connections; 2020-2027 (Billion)
- Figure 58: Global Cobalt Market Players by Cobalt Production; 2021-2022 (Kilo tonnes)
- Figure 59: Glencore Plc Revenue by Segment; 2022 (Percentage, %)
- Figure 60: Umicore Turnover by Segment; 2022 (Percentage, %)
- Figure 61: Vale S.A. Revenue by Business Area; 2022 (Percentage, %)
- Figure 62: Jinchuan Group International Resources Co. Ltd. Revenue by Segment; 2022 (Percentage, %)
- Figure 63: Zhejiang Huayou Cobalt Co., Ltd. Revenue by Goods or Services; 2022 (Percentage, %)
- Figure 64: Sherritt International Corporation Revenue by Segment; 2022 (Percentage, %)
- Figure 65: BHP Group Limited Revenue by Segment; 2022 (Percentage, %)
- Figure 66: Norilsk Nickel Revenue by Segment; 2022 (Percentage, %)
- Figure 67: Eramet Group Turnover by Activities; 2022 (Percentage, %)
- Figure 68: CMOC Group Limited Operating Revenue by Category; 2022 (Percentage, %)
- Figure 69: Sumitomo Corporation Revenues by Segment; 2023 (Percentage, %)

Figure 70: Jervois Global Limited Revenue by Segment; 2022 (Percentage, %)

Table 1: Global Cobalt Market Players: Resources Comparison (2022)

Table 2: Global Cobalt Market Players: Ore Reserves Comparison (2022)

Table 3: Global Cobalt Market Players: Operating Mines Comparison

Table 4: Global Cobalt Market Players: Developing Mines Comparison

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