

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.

Sherritt 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.

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