



Cobalt

With supply shortfalls and rising demand, will cobalt continue to grow more expensive?



How large is the cobalt market?

Cobalt, a silver-grey metal produced as a by-product of copper and nickel mining, has garnered attention as a

growth market.

The market is expected to expand at a compound annual growth rate of 11.6% over the next 10 years, mostly as a result of its importance in manufacturing rechargeable batteries.

However, in the face of growing demand from electric vehicles and smartphones, supply remains constrained as new projects in the Democratic Republic of Congo, which originates 58% of the global supply, has been slow to materialise. This has created a supply/demand mismatch, which has doubled cobalt prices over the last year to their highest levels since 2008.

What is the current price of cobalt?

On the 11th June, Bloomberg reported spot prices for cobalt at \$2.56 per ounce. For comparison, in June silver traded at \$15.5 per ounce and neodymium, a rare earth element used in magnets, traded at \$1.9 per ounce at its 2017 peak.

More importantly, the price of cobalt has doubled over the past year as supply has failed to meet demand. However, there have been some signs of softening over recent months as a large mine owned by Katanga resumes production, ending a seven-month price rally with a taper in May that continued through June.

Even so, most analysts expect a supply crunch over the longer term, as the manufacturing of electric vehicles increases demand.

How is the market looking to meet increased interest in cobalt?

One solution for shortfalls in cobalt output is to recycle batteries. Bloomberg reports that recycled batteries could provide 100,000 metric tons of cobalt a

year by 2030, if all used batteries were harvested.

The other solution commercial manufacturers find attractive is to use less cobalt. China's BYD Company already plans to switch all of its batteries to a nickel-manganese-cobalt ratio of 8:1:1 by the end of this year, while BMW hopes to adopt the same policy by 2021 and Tesla's nickel-cobalt-aluminium batteries already contain less cobalt than their previous designs.

The risk to the cobalt market is long-term demand destruction. This is a serious threat as rising cobalt prices and conflict mineral concerns cause companies to decrease their consumption of the metal permanently by finding substitutes.

Is cobalt a conflict mineral?

The US Securities and Exchange Commission approved rules regarding the sourcing of conflict minerals in the Dodd-Frank Act in 2012.

The regulations require strict supply chain audits on minerals, including gold, tungsten and tin, which are often used to fund conflict.

Cobalt is not among the list of conflict minerals, although it was used to fund rebel groups and warlords in Congo, especially in the country's north-east.

In recent years the situation in Congo has improved, but there are still allegations of child endangerment and unsafe conditions in Congolese mines.

In 2016 Glencore, the world's largest cobalt producer, was accused by [Amnesty International](#) of having children working in some of their suppliers' mines.

Alongside batteries, what is cobalt used for?

Cobalt batteries have garnered much attention due to the advent of electric cars, but make up only 49% of the market's demand for the metal.

Cobalt-60, a radioactive form of the element, is used in radiation therapy, while other derivatives of cobalt, like cobalt salts, produce pigments in ceramics. Cobalt is commonly used to create alloys as well.

Edison Insight:

“While the demand side of the equation for cobalt appears buoyant, the supply side is characterised by a number of risks. Prime among these is the fact that the Democratic Republic of the Congo ranks 87 out of 91 in the Fraser Institute's Policy Perception Index survey of government policy attractiveness to the mining industry.” Charles Gibson, Director of Mining.

When mixed with steel, the metal improves durability and hardness at high temperatures, making it perfect for industrial purposes. Added to chrome it produces an alloy commonly used in orthopaedic implants. The Idaho Cobalt Project reported that 70% of hip replacements use cobalt-chrome alloys.

Which are the leading cobalt mining companies?

Glencore has positioned itself as the largest supplier of cobalt, but has taken some recent shocks to its stock price.

In May 2018, the UK's Serious Fraud Office (SFO) opened a probe into the company's ties to Congo and Israeli industrialist Dan Gertler. As a result, the share price fell by 7% and while it has since recovered, the probe means that uncertainty remains over the company's dealings.

Brazil's Vale, the largest producer of iron ore and a large player in cobalt, is also struggling. Reuters estimates that in April the company reported net income of \$1.59bn, down from \$2.49bn a year before.

Other companies, China Molybdenum among them, are increasing their stake in cobalt projects. China Molybdenum recently increased its stake in Tenke Fungurume to 80% alongside First Cobalt's acquisition of high-quality assets in the Idaho Cobalt belt.

[One surprising entrant into the market was Wheaton Precious Metals, which is diversifying its precious metal projects by acquiring the Voisey's Bay cobalt stream.](#)