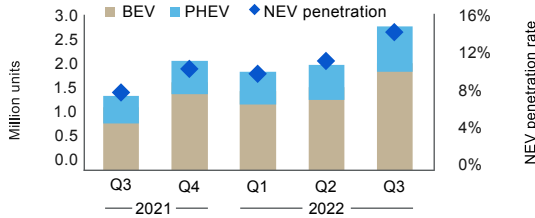


Q3 was very much a quarter of two halves with significant volatility

STRONG EV MOMENTUM CONTINUED GLOBALLY WITH CHINA LEADING GROWTH

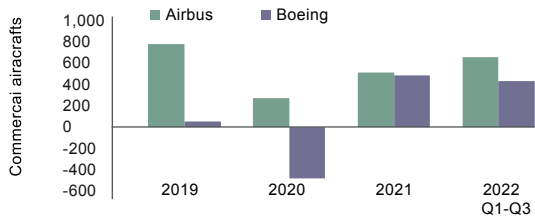


Global NEV sales are estimated to reach 2.8 mill. units over Q3 2022, up 70% year-on-year, marking a record high.

Co-containing chemistries represent over 70% of the EV battery market
Despite increased LFP adoption, Co-containing chemistries remained the mainstream battery technology.

Cobalt consumption in EV batteries rose 75% year-on-year in the first nine months of 2022.

AEROSPACE DEMAND REMAINED SOLID BUT FULL RECOVERY AT RISK OF RISING INFLATION

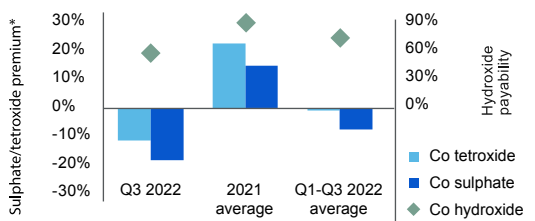


Q3 saw a continuation of solid aircraft orders and improved global air travel, suggesting a gradual recovery in commercial aviation.

Alloy cobalt demand remained robust from power generation and medical applications

Risks are skewed to the downside amid: ongoing supply chain disruptions and concerns over rise in inflation and gas prices, particularly in Europe.

CHEMICALS SOLD AT DEEP DISCOUNT AGAINST METAL AMID LACKLUSTER DEMAND



After losing nearly 30% between July and mid-August, cobalt metal prices recovered slightly, driven by improved sentiment due to the rumour around SRB's buying and supply disruptions.

Hydroxide payables stabilised in the low 60s over Q3 in a comfortably supplied market.

Premia for chemicals remained in negative territory, reflecting weak demand and high stock levels.

RISKS TO THE COBALT OUTLOOK

SHORT TERM

- ▲ Active government stockpiling and speculation from institutional investors will reduce spot metal availability.
- ▲ More trading restrictions or sanctions are placed on Russian cobalt, limiting regional metal supply.
- ◀ Rising resource nationalism in the DR Congo will lead to more stringent mining regulations, tightening hydroxide supply.
- ◀ Elevated regional geopolitical tensions and air travel recovery will increase requirements for superalloys.
- ◀ Stronger policy support will propel short-term EV uptake, boosting cobalt sulphate demand.

LONG TERM

- ▲ Greater and faster EV adoption globally will put increased strain on cobalt sulphate availability.
- ▲ Accelerated energy transition will require more cobalt in areas such as power generation and energy storage.
- ◀ Stronger consumer buying will boost sales and production of PE devices.
- ▼ The changing regulatory landscape in vital Co-producing countries and a slump in copper and nickel prices will disincentivise the development of new mines

UPSIDE FACTORS

- ▲ Major Congolese producers or Indonesian HPAL plants, or both, will expand and ramp up quicker than expected.
- ▼ Logistic pressure on hydroxide shipments will ease significantly with new transportation routes being developed.
- ▲ Weaker household real incomes and lower consumer confidence will continue to affect PE demand.
- ▼ Commodity prices will continue to fall amid the looming threats of a global recession, having a spillover effect on cobalt.

- ▲ Rising raw material prices will delay the timeline for EV-ICE cost parity, hampering the wider adoption of EVs.
- ▲ Copper or nickel demand, or both, will rise sharply, increasing Co by-production well above required levels.
- ◀ ESG and cost concerns or disruptive battery technologies will trigger faster Co substitution across battery applications.
- ▼ Battery recycling will exceed our base case, suppressing demand for virgin materials.

DOWNSIDE FACTORS

Note: BEV = battery electric vehicles; PHEV = plug-in hybrid electric vehicles; NEV = new energy vehicles; LFP = lithium ion phosphate *premium over metal prices/payable of metal prices
▲ HIGH ◀ MEDIUM ▼ LOW probability of risks occurring; EV = electric vehicles; PE = portable electronics; ICE = internal combustion engine; ESG = environmental, social, and governance; HPAL = high-pressure acid leach.
Source: Wood Mackenzie Cobalt Market Service