

# The Critical Minerals Institute Report (01.25.2024): U.S. government bans Pentagon battery purchases from major Chinese companies starting October 2027

written by Matt Bohlsen | January 25, 2024

Welcome to the January 2024 [Critical Minerals Institute](#) (CMI) report, designed to keep you up to date on all the latest major news across the critical minerals markets. Here is the CMI List of [Critical Minerals](#) or visit the [CMI Library](#).

## Global macro view

January 2024 saw a slight rise in U.S. inflation [reported](#) from 3.1%pa in November to 3.4%pa in December 2023. This has led market commentators to suggest the proposed 2024 interest rate [reductions](#) may be pushed out to H2, 2024, or be smaller in nature.

The next U.S. Fed rates announcement is due on January 31, 2024, and no changes in rates are expected. Year to date, as of January 21, 2024, the [S&P 500](#) is up 2.04%. U.S. GDP looks set to slow in Q4, 2023 ([announcement](#) due 25 January 2024) with [forecasts](#) for 2% annualized growth, which would result in a [2023 GDP](#) of ~2.7%. 2024 U.S. GDP is [forecast](#) to be ~2.2%. The U.S. consumer remains resilient with U.S. employment [very strong](#).

China continues its property led slowdown with 2023 GDP recently

[reported at 5.2%](#) annualized. China's December new [home prices fell](#) at the fastest pace in almost 9 years. Despite this the Chinese Central Bank left rates unchanged, defying expectations for a 0.1% cut.

The Russia-Ukraine war continues as does the Hamas-Israel war which last month spread to include the U.S. and UK forces [bombing](#) Iran-backed Houthis over their attacks in the Red Sea. The Middle East is a hotbed ready to explode.

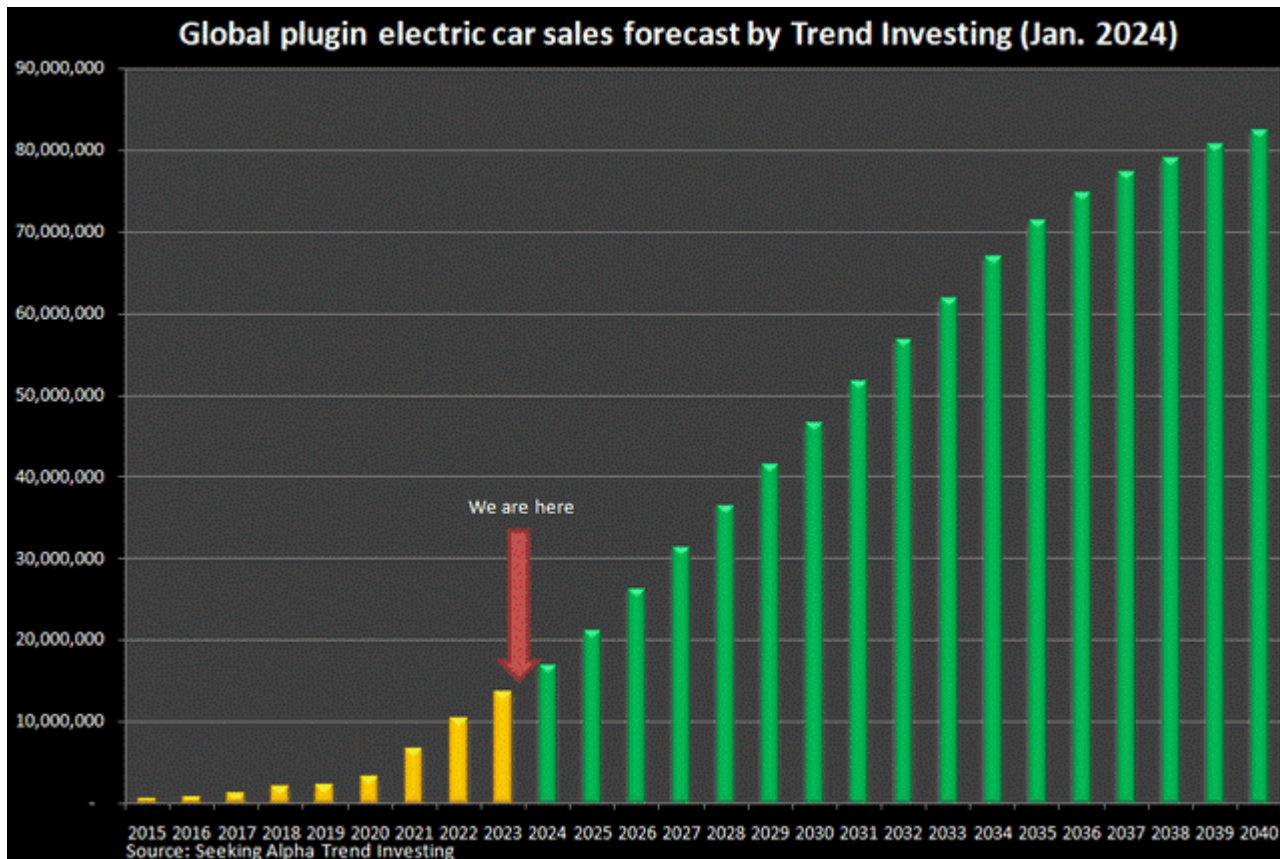
## Global plugin electric vehicle ("EV") update

December 2023 saw the usual seasonal upswing in global plugin electric car sales reaching a record [~1.5 million](#). China led the way with a stellar result of [1.191 million units](#), up [46% YoY](#).

Global plugin electric car sales ended 2023 at [13.6 million units](#) (~16% market share), for a growth rate of [31% YoY](#) (a significant slowdown from the ~60% growth rate in 2022).

- Trend Investing [forecast](#) for 2024 is 17 million units (20% market share), for a growth rate of 25% YoY.
- BloombergNEF [forecast](#) for 2024 is 16.7 million units (~20% market share), for a growth rate of 21% YoY.

**We are still at the very early stage of the EV boom.**



Trend Investing's global plugin electric car sales forecast to 2024 (green bars)

In early January, news was released that [a record](#) 1.2 million EVs were sold in the U.S. in 2023, according to estimates from Kelley Blue Book. The report noted that U.S. market share [reached 7.6%](#) in 2023 and that 55% of EV sales were attributable to Tesla (NASDAQ: TSLA).

The UK announced that their Zero Emission Vehicle (ZEV) [mandate](#) to increase electric car sales has become law. Key rules include:

- **"ZEV Mandate demands makers up share of electric car sales to 22% in 2024.**
- Electric vehicles currently make up around just 18% of all registrations in the UK.
- **Mandate thresholds rise annually to an 80% share in 2030 – and 100% by 2035.**

- Failure to meet the ZEV mandate sales targets can result in huge fines for auto makers of £15,000 per model below the required threshold.”

## EV battery news

The U.S. government continues to tighten the screws towards developing their own EV supply chain independent of Foreign Entities Of Concern (“FEOC”). On January 20 Bloomberg [reported](#): “US to ban Pentagon battery purchases from China’s CATL, BYD”. The ban will commence from October 2027 and include 4 other Chinese battery makers (Envision Energy Ltd., EVE Energy Co., Gotion High Tech Co., and Hithium Energy Storage Technology Co).

## Global critical minerals update

There is an enormous amount of doom and gloom surrounding the EV and battery metals sector as we commence 2024. A key theme in recent months has been very depressed prices for many of the critical minerals, especially those related to the EV segment. A combination of the slowing EV growth rate in 2023 from ~60% in 2022 to ~31% in 2023, combined with an excess of battery inventory from 2022 and new EV metals supply has left most EV metal markets in surplus with prices collapsing.

MarketsCommodities

# Battery Metal Price Plunge Is Closing Mines and Stalling Deals

■ Prices for lithium, nickel and cobalt have tumbled from peaks

Source: [Bloomberg article, January 10, 2024](#)

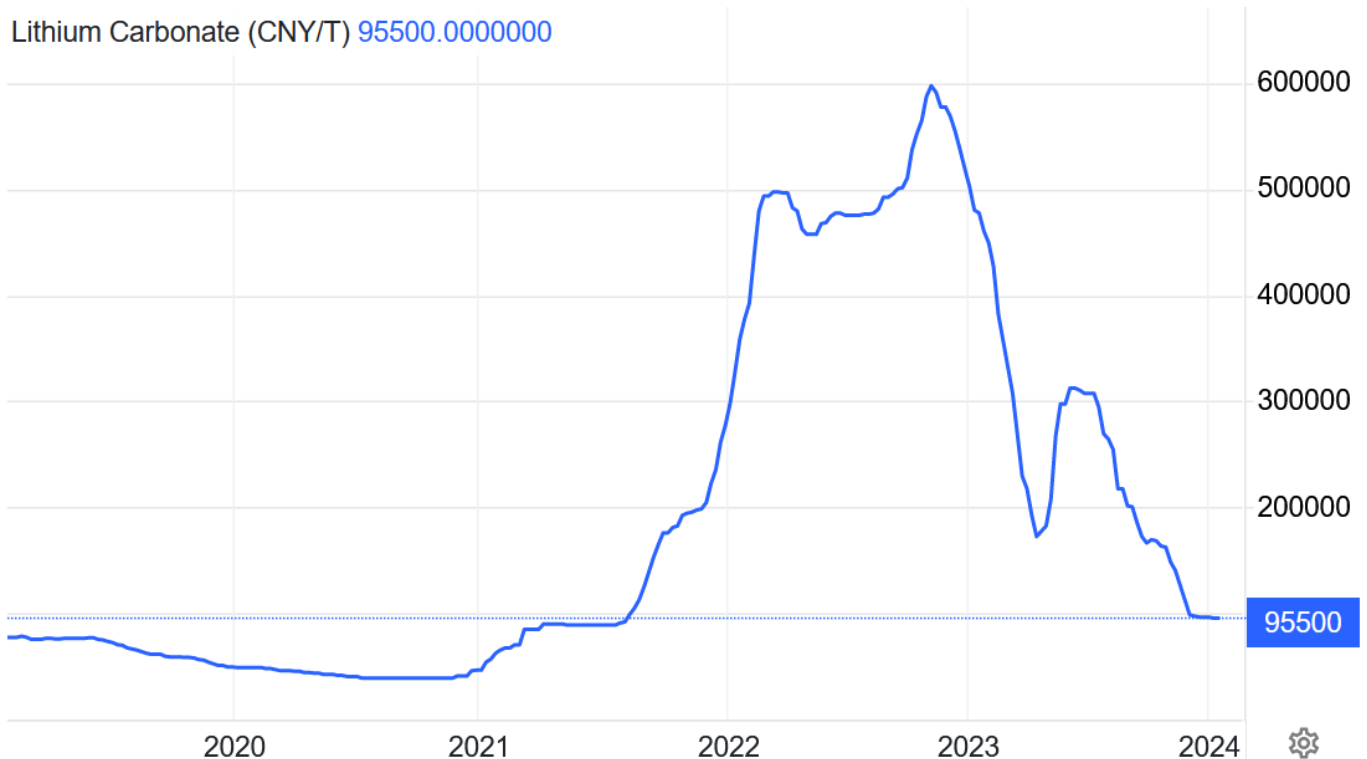
## Lithium

China lithium carbonate [spot prices were flat](#) the past month, with the price now at [CNY 95,500/t](#) (USD 13,275/t). After an [~80%](#) fall from the high, lithium prices appear to have finally stabilized. This is logical given that prices are now at or below the marginal cost of production, especially for the higher cost China lepidolite producers.

Industry participants have been calling for a price bottom in recent months, with China Futures Co. analyst, Zhang Weixin, forecasting lithium prices to bottom out between [CNY 80-90,000/t](#) and average CNY 100,000/t in 2024.

The other key recent trend in the lithium sector has been several announcements from lithium producers either stopping production or reducing their expansion plans. Core Lithium (ASX: CX0) announced on January 5, 2024 it will [temporarily suspend](#) mining operations. Then on January 17, 2024, Albemarle Corporation (NYSE: ALB) [anno](#)unced “actions to preserve growth, reduce costs, and optimize cash flow”. This includes deferring plans to build a fourth lithium hydroxide processing train at their Kemerton LiOH facility.

**The China lithium carbonate spot price has stabilized near the marginal cost of production**



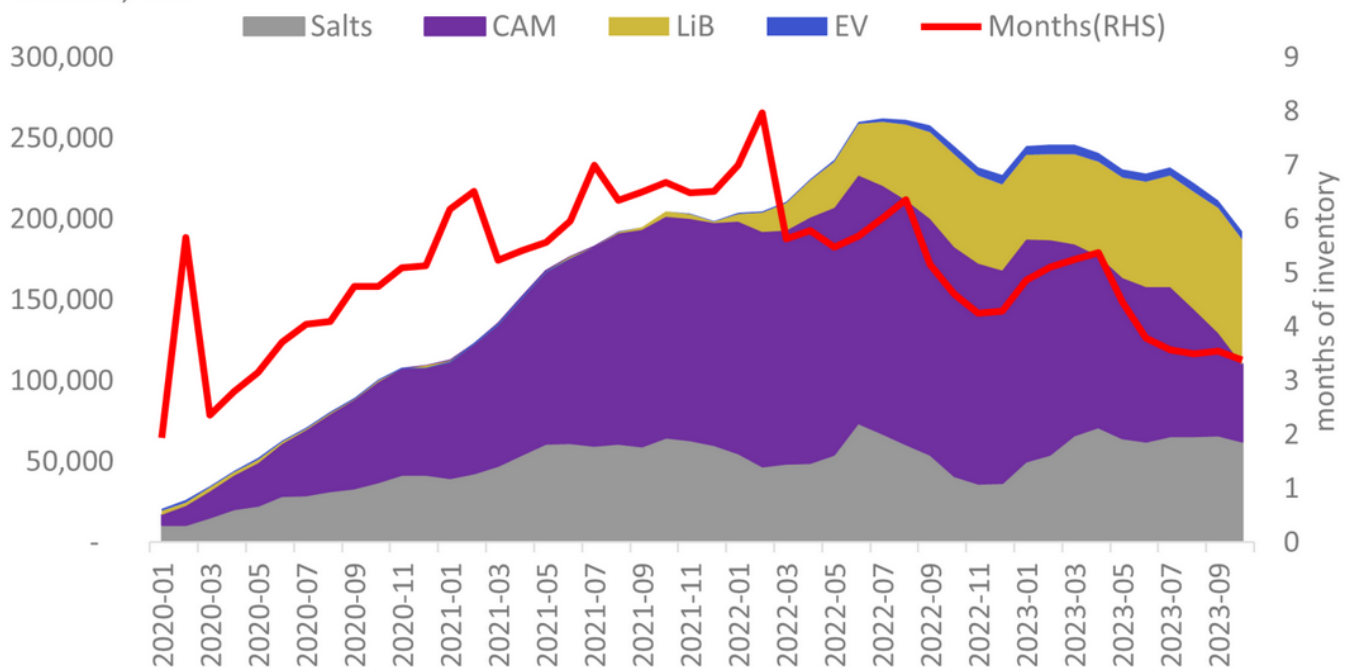
Source: [Trading Economics](#)

On the topic of when we might see some recovery in lithium prices. On January 19 Fastmarkets put out a report [stating](#): “...We expect orders to start flowing upstream again either towards the end of the first quarter or early in the second quarter.” If this proves correct and EV demand remains solid, then we could expect some lithium price recovery late Q1, early Q2, 2024.

**Fastmarkets reports China lithium inventory levels are now back to the pre-boom levels with ~3 months of supply (red line)**

## Implied inventory on the way back to normalized level

Implied lithium inventory within China's supply chain  
tonnes, LCE



Source: [Fastmarkets](#)

## Magnet Rare Earths

Neodymium spot prices fell again the past month to [CNY 505,500/t](#). Prices peaked in February 2022 at CNY 1,506,530 and have been trending lower ever since then.

As discussed in a recent [InvestorNews article](#), the consensus of industry experts is for 2024 to be a consolidation year. The article states: "2024 should see a year of consolidation for the rare earths sector as some experts are telling me. Some [forecasts](#) are for NdPr supply deficit to begin as early as 2024; however, this will largely depend on China demand, the global economy, EV sales, and new NdPr supply hitting the market."

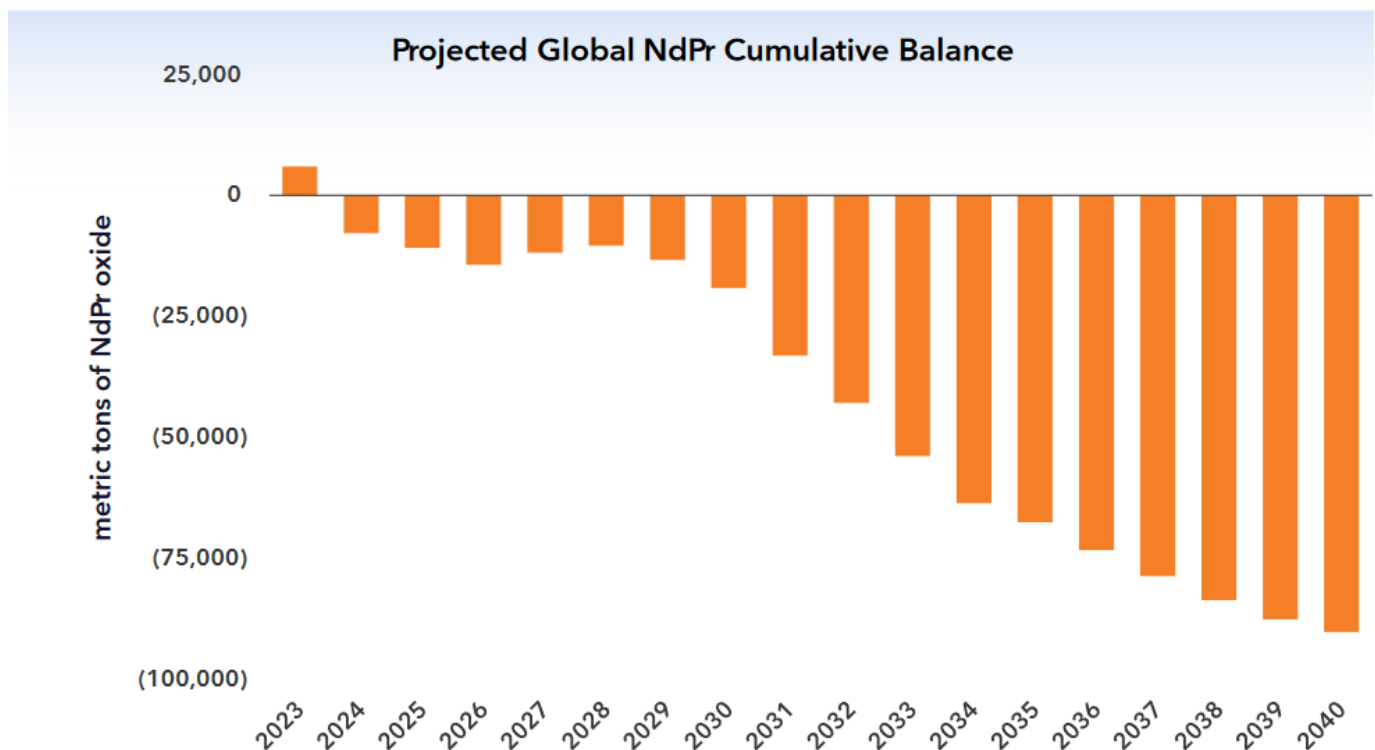
One interesting [news item](#) that emerged in January was of Rainbow Rare Earths Limited (LSE: RBW) ("Rainbow") and their Phalaborwa Project in South Africa. The key aspect being that the Project



[consists of gypsum](#) waste piles that contain large quantities of the magnet rare earths. Rainbow CEO Bennett [stated](#): “We’ve got no mining cost, no crushing, no milling, no flotation. I saw the advantages to lead to a low capital intensity and low operating cost environment project.” Rainbow targets first production for 2026.

**Some analysts are forecasting deficits ahead for NdPr rare earths driven by strong EV and wind energy demand**

## A precarious supply-demand imbalance looms



Source: [MP Materials courtesy Adamas Intelligence](#)

## Cobalt, Graphite, Nickel, Manganese and other critical minerals

**Cobalt** prices (currently at [US\\$12.90/lb](#)) were flat the past month and remain at very depressed levels. The cobalt market is



suffering from excess cobalt supply from the DRC which combined with a global slowdown in demand has led to cobalt prices dropping by almost 2/3 since their April 2022 peak. With LFP batteries gaining in popularity (no cobalt required) and a weak global consumer electronics market, there appears to be no short term turnaround for cobalt. Leading cobalt producer Glencore PLC (LSE: GLEN | OTC: GLCNF) has been stockpiling their excess material. At current prices, there is limited incentive for western producers to expand or enter the market.

### **Cobalt has lost two-thirds of its value since a recent peak in 2022**



Source: [Trading Economics](#)

**Flake graphite** prices remain very weak with prices near the marginal cost of production and [down ~2%](#) over the past month.

A January 2024 Bloomberg [report](#) noted that natural flake graphite shipments slumped 91% in December from November 2023. Of course, sales surged prior to the Chinese export license permits being implemented in December 2023. December exports

were 3,973 tons compared to the past monthly average of ~17,000t, so still a very significant fall.

Despite the spate of recent bad news, graphite is one of the EV metals with the largest demand profiles ahead this decade. Several groups are forecasting deficits ahead this decade starting from 2024/25 for the various types of graphite including flake, spherical, and synthetic. You can read more on the graphite outlook [here](#).

**Nickel** prices fell again last month to [USD 15,799/t](#). The [1 year outlook for nickel](#) remains poor due to oversupply concerns from Indonesia. As a result of low nickel prices we saw [the collapse](#) of Panoramic Resources (ASX: PAN) in December and then on January 22, 2024, it was [reported](#) that BHP Group (ASX: BHP | NYSE: BHP) plans “to put parts of Kambalda nickel concentrator in Australia on care and maintenance” from mid-2024. This was caused by Wyloo Metals, which supplies ore to the plant, announcing a pause in mining operations due to low nickel prices.

**Manganese** prices were flat the past month and are now at [CNY 29.25/MTU](#).

**Uranium** prices have been the exception to the rule the past year as they continue to rise, now at [US\\$106/lb](#).

**Uranium 5 year price chart**



Source: [Trading Economics](https://tradingeconomics.com/uranium-price)

## Conclusion

The biggest trend that looks to be emerging in Q1, 2024 for the EV metals sector is a negative supply response from producers. Producers are cutting CapEx, scaling back expansion, and in some cases reducing or stopping production. Expect to see a lot more of this in H1, 2024.

They say “the cure for low prices is low prices”. Well that’s exactly where we are now in the cycle. The next 3-6 months is likely to see the washout phase, where many miners collapse, reduce production or put their mine into care and maintenance. There is no point running a mine and selling a limited resource and making no profit. I will end with three well known sayings:

- “Bear markets are the author of bull markets”
- “*Bull markets are born on pessimism, grown on skepticism, mature on optimism, and die on euphoria.*”

- “You have suffered through the pain, now hang around for the gain.”

Given the EV metals markets have been in a bear market for the past 15-18 months the end is near, and we should expect some recovery during H2, 2024, assuming EV sales can grow at a reasonable rate.

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## Electric car sales grew ~43% in 2020 as conventional car sales decreased 14%, led by Tesla and Europe

written by InvestorNews | January 25, 2024

As we look back on 2020, we see global electric vehicle (EV) sales actually [rose 43%](#) during a pandemic year, while internal combustion engine (ICE) vehicle sales [decreased 14%](#). Another big sign of the disruption that is happening was news last week that the world's biggest diesel engine factory in France is undergoing a radical overhaul [and switching to make electric motors](#). The EV disruption started with Tesla (NASDAQ: TSLA) but is now going mainstream with Volkswagen and BMW electric sales surging, especially in Europe.

2020 global electric car sales were [~3.24 million](#), up ~43% on 2019, reaching [4.2%](#) market share. The chart below highlights that EV sales really took off in H2, 2020. This was mostly due to the surge in Europe EV sales.

Tesla was the number 1 global seller of electric cars in 2020 achieving about [16%](#) market share (led by Tesla Model 3) leaving everyone in its wake. Nearest rivals were Volkswagen ([7%](#) share), BYD Co ([6%](#) share) and BMW ([5%](#) share). The Volkswagen brand [tripled deliveries](#) of all-electric vehicles in 2020, boosted by Germany's [254%](#) increase in EV sales, new electric models, and Germany's subsidies.

## **Global electric car sales surged to record highs repeatedly in H2 2020**



Source: [EV-Volumes](#)

H2 2020 will be remembered as the time when the serious EV disruption of ICE began. December 2020 was a record month for electric car sales with some incredible stats on electric car sales market share: France ([19%](#)), Germany ([27%](#)), Sweden ([49%](#)), Netherlands ([72%](#)), Norway ([87%](#)) and for all of Europe (an incredible [23%](#) market share).

## **2021 and beyond EV forecasts**

BloombergNEF forecasts EV sales to surge [60%](#) in 2021 and IHS Markit forecasts global EV sales to rise by [70%](#) in 2021.

Certainly the big change that is now happening is that the conventional car companies are now in panic mode as Tesla's growth and popularity surges. At Tesla Battery Day, Elon Musk said that Tesla plans to reach 20 million EV sales pa by 2030. That would put Tesla at almost double the current market share of ICE leaders Volkswagen and Toyota in the conventional car market. Given by 2030 most new car sales will be electric, the conventional car companies now realize they need to move fast or face bankruptcy.

Volkswagen has responded by boosting total digital mobility expenditures to [€150 billion](#). BMW Group plans to [virtually double the number of electrified vehicles](#) it offers to 25 models by 2023, with more than half of these to be fully electric. Daimler will invest [€70 billion \(\\$85 billion\)](#) between 2021 and 2025 into EVs. Volvo Cars will go ahead and [triple electric production capacity](#) in Ghent after strong year of electrified car sales.

**Global light electric vehicle sales are now growing exponentially and ended 2020 at 4.2% market share**



Source: [EV-Volumes](#)

### **Closing remarks**

There should be no doubt now that a rapid switch from internal combustion engine vehicle to electric vehicle will occur this decade. China initially led and Europe caught up in 2020. The US will be next to catch up as Biden supports the sector with [550,000](#) new charging stations, renewed subsidies, and his latest plan to make the entire US Gov. [650,000](#) vehicle fleet go electric.

Without a doubt Tesla's electric car sales and Tesla's stock price performance were the huge winners of 2020. Looking ahead to 2021 it looks like Volkswagen is making a move and the Chinese startups Nio and XPeng should have a great year. BYD Co remains a China leader as well as a global leader in e-bus sales.

For investors the opportunity in 2021 is buying EV companies who can rapidly scale production and buying into the supply chain of battery manufacturers and EV metal miners. Below is a link to

our InvestorIntel watchlists which is well worth a look.

2021 is looking like the year EV sales will fly higher, especially if we get a rebound in discretionary spending from an improving global economy with COVID-19 hopefully declining.

- <https://investornews.wpengine.com/watchlists/> (lithium, cobalt, graphite, rare earths, etc.)