

25th April 2022

Global sales of electric cars - A market update

Before reviewing the sales of electric vehicles during the first quarter of 2022, a quick review of the trends in 2021 is useful. Last year saw the highest annual growth in global electric vehicle sales volume since 2012. By electric vehicles, which we define in this article as “xEV”, we are referring to battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV), **excluding** hybrid electric vehicles (HEV)¹, a concept initiated by Toyota at the end of 1997 with its Prius model.

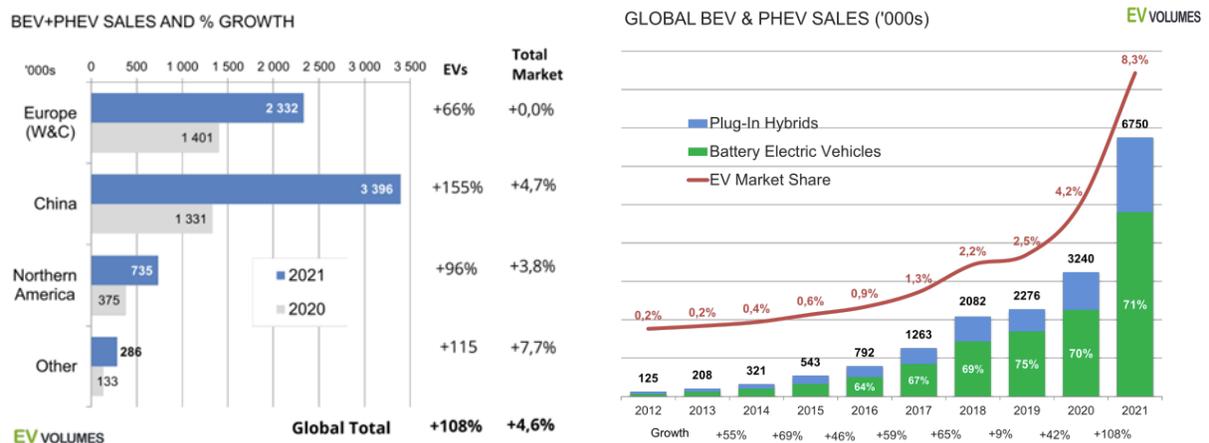
According to EV-Volumes (Figure 1), global xEV sales volume reached 6.75 million units in 2021, up 108% year-over-year. BEVs accounted for 71% of total volume of xEV. China xEV sales volume jumped by more than 2 million units in 2021, more than the volume increase of all other regions combined. Concurrently, the largest EV power battery producer in China, CATL, had its total sales volume of battery systems increased by 185% in 2021 to 133GWh.

The growth in 2021 in Western and Central Europe (including Scandinavia) was lower because of the high base in the second half of 2020. North America sales benefited from the new offerings by nearly all OEMs and from better supply of Tesla Model 3 & Y.

Global xEV penetration rate increased from 4.2% in 2020 to 8.3% in 2021. In Europe, xEV share increased from 10% to 17%, with a 26% peak in December. In China, xEV share was 13.4% for the full year 2021, up from 5.5% in 2020, with a 19% peak in December. In North America, xEV had a 4.4% market share in 2021, compared with 2.3% in 2020. For the other 70 markets covered by EV-Volumes.com, the xEV penetration rate was 1.5% in 2021.

¹ HEVs debuted in the U.S. market in December 1999 with 17 sales of the first-generation Honda Insight, while the first PHEV (Chevrolet Volt) and BEV (Nissan Leaf) most recently debuted in December 2010, according to Argonne National Laboratory.

Figure 1. Global BEV+PHEV sales volume and penetration rate in 2021



Source: EV-Volumes – April 2022

The start of the year 2022 has so far been more difficult for the global electric vehicles sector in 2022. The ongoing supply chain disruptions, further exacerbated by Russia’s invasion of Ukraine, have negatively impacted car production and sales, especially in Europe. Barclays estimates that xEV volume in the “Big 8” European countries² went up by 20% year-over-year in the first quarter of 2022 while the non-xEV market fell by 18%. BEV volume sales are estimated to have increased by 55% year-over-year to reach 12.8% of the total car sales volumes in the first quarter, while PHEV volume have dropped by 10% year-over-year to reach an 8.8% market share. Total xEV penetration rate in the “Big 8” European countries is estimated to have reached 21.6% in the first quarter of 2022, according to Barclays Research.

The Chinese market had strong growth in the first quarter of 2022, as its domestic supply chain was not disrupted much until the full lockdown of Shanghai hit on 28th March. China’s Ministry of Industry and Information Technology data showed that xEV sales volume grew by 140% year-over-year to 1.26 million units in the first quarter while the xEV penetration rate remained high at 19.3%. According to China Passenger Car

² Germany, France, Italy, Spain, UK, Norway, Sweden, Netherlands.

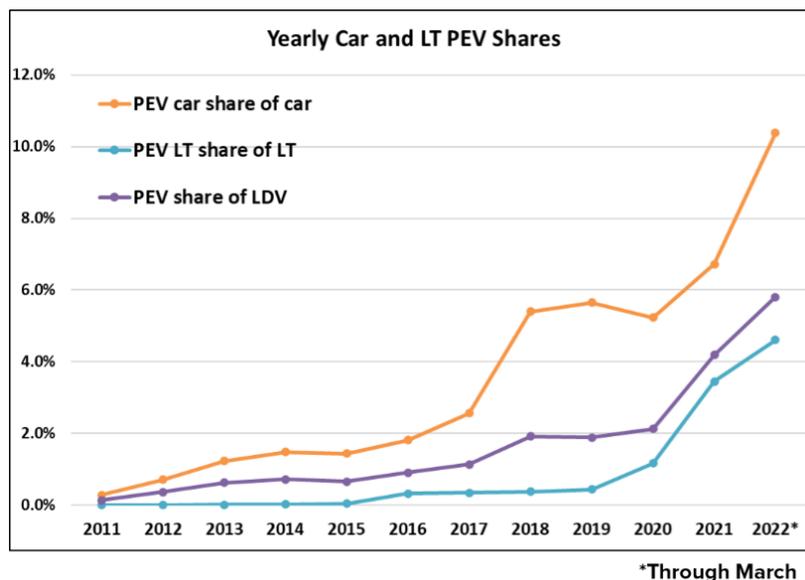
Association, xEV share of domestic retail volume kept trending up from 22.6% in December 2021 to 28.2% in March 2022.

A symbolic event took place over the past quarter when one of the largest OEMs of China, BYD, went 100% electric since March 2022 with a monthly production and sales volume of over 106,000 units, ditching its past production of combustion engine vehicles.

Although the lockdown in Shanghai caused a suspension of production for three weeks, leading auto makers including Tesla and SAIC Motor have proactively resumed production on 18th April.

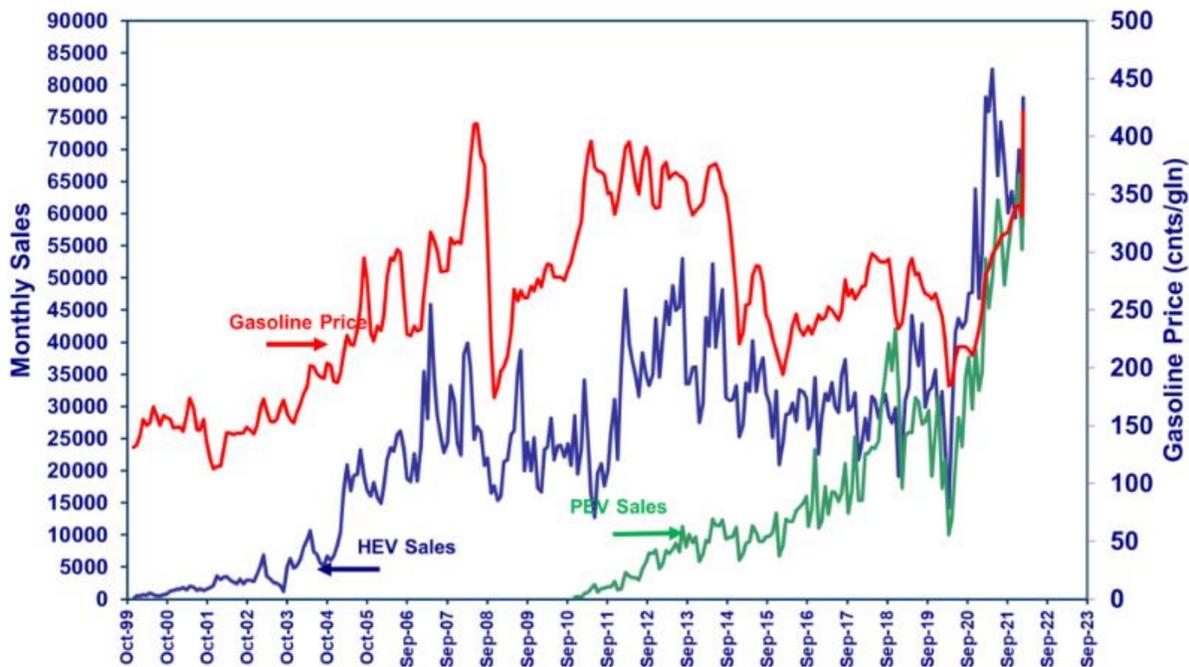
In the US, Argonne National Laboratory monthly data showed that a total of 185,918 units of xEV were sold in the first quarter (141,301 BEVs and 44,617 PHEVs), up 53.9% year-over-year. xEV share in light duty vehicle (LDV) sales volume has been trending up to 5.85% in March 2022 (Figure 2). The sales of xEV in the US is largely driven by gasoline price hikes since the second half of 2021 (Figure 3).

Figure 2. Plug-in electric vehicle (PEV) sales share in the US



Source: Argonne National Laboratory. LT: Light trucks. LDV: Light Duty Vehicles

Figure 3. Monthly PEV sales and gasoline price in the US



Source: Argonne National Laboratory.

HEV: Hybrid electric vehicles. PEV: Plug-in electric vehicles

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