

25th July 2022

Global Electric Vehicle Market - 1H2022 Review

Our regular readers might remember that we had a global electric vehicle (EV) market review for the full year of 2021 and for the first quarter of 2022. Now it is time to wrap up the first half of 2022.

China's EV market went from strength to strength in the second quarter, despite a two-month lockdown in Shanghai in April and May 2022. According to the China Passenger Car Association (CPCA), the **1H22 domestic retail sales of new energy vehicles (NEVs) was 2.25m units, a staggering 122.5% year-over-year increase that beat all expectations.** By comparison the growth for the first quarter of 2022 was 144% year-on-year.

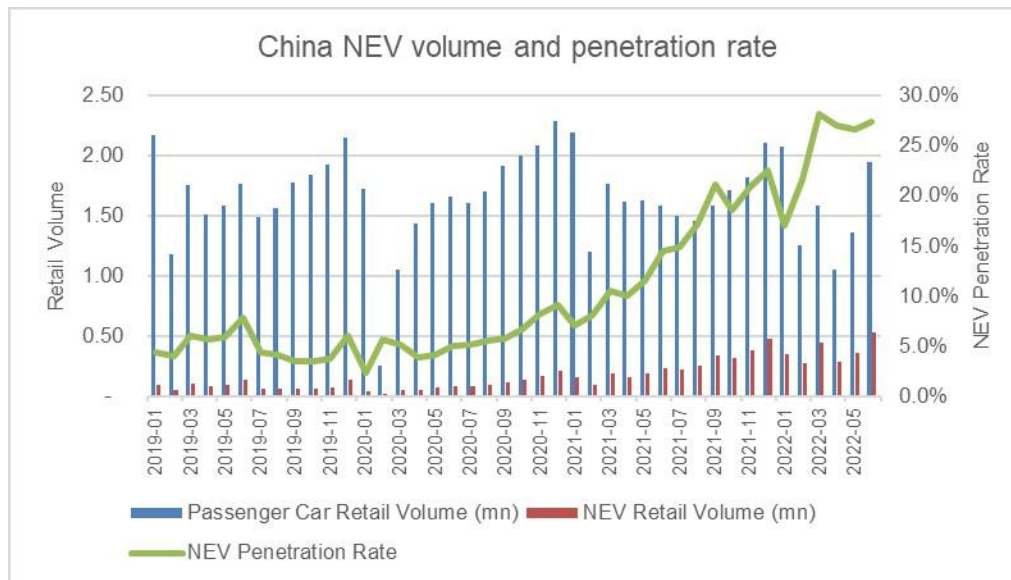
By comparison, the total number of cars sold in China in the first half, including both internal combustion engines and electric vehicles, was down 7.1% YoY to 12m vehicles.

The penetration rate of NEVs in China trended upward from 22.6% in December 2021 to 27.4% in June 2022.

Soaring gasoline prices and the fast roll-out of new NEV models continue to drive the volumes. Local governments also launched various auto consumption support subsidies to counter an economy battered by deeply damaging zero-Covid policies.

The second quarter EV sales were so strong that market participants now forecast **China's passenger EV sales volume to reach 5.5m units for the full year 2022, up from 3.0m units in 2021.** Around 80% of total new energy passenger car sales are pure battery models (BEV), while 20% are plug-in hybrid electric models (PHEV).

Figure 1. China's domestic passenger car retail volume and NEV penetration rate



Source: China Passenger Car Association

The top selling companies are local brands that keep on gaining momentum, taking 82% of the market over the first five months of the year. The JV brands (i.e. Volkswagen and Toyota joint ventures in China) only had a 5% market share, while luxury brands (e.g. BMW, Mercedes-Benz, Porsche) had a 2% market share. Tesla pocketed an 11% market share in China despite the Shanghai lockdown that hit its factory, selling 216k cars. BYD Company was the biggest winner, selling 506k cars and reaching almost 27% market share. BYD is now the largest NEV car maker in the world.

The situation in Europe is quite different. The growth of NEV registrations is slowing amid economic uncertainties and sustained component supply shortages, and despite soaring gasoline prices. According to the European Automobile Manufacturers' Association, NEV registration in Europe (defined as being the European Union + the European Free Trade Association countries [i.e. Norway and Switzerland] + the UK) was 1.12mn units in 1H22, an 8.8% increase year-over-year, weaker than expected.

In the meantime, total passenger car registration in Europe was 5.6m units, a 13.7% drop year-over-year. The NEV penetration rate is growing, but the absolute penetration level

varies significantly from country to country (see Figure 2). Not surprisingly, Norway, Sweden, Finland, and Denmark are the outliers when it comes to NEV transition.

The overall penetration of EV cars in Europe rose from 15.9% in 1H2021 to 20.0% in 1H2022.

Figure 2. European passenger car registrations and NEV penetration rate

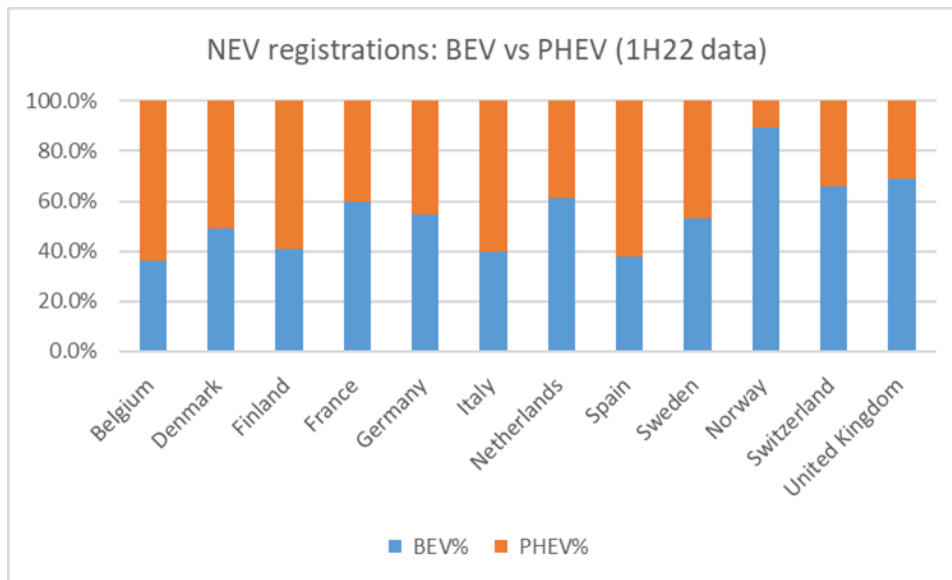
New passenger car registrations in Europe, by market

	BEV+PHEV			Total passenger car			NEV Penetration rate		
	Units	Units	% chg	Units	Units	% chg	Units	Units	ppt chg
	1H22	1H21	% chg	1H22	1H21	% chg	1H22	1H21	ppt chg
Belgium	47,274	35,273	34.0%	195,387	232,391	-15.9%	24.2%	15.2%	9.0
Denmark	24,754	25,860	-4.3%	73,539	96,489	-23.8%	33.7%	26.8%	6.9
Finland	14,649	16,112	-9.1%	43,501	56,736	-23.3%	33.7%	28.4%	5.3
France	156,152	144,304	8.2%	771,980	922,765	-16.3%	20.2%	15.6%	4.6
Germany	306,383	312,507	-2.0%	1,237,975	1,390,889	-11.0%	24.7%	22.5%	2.3
Italy	62,433	68,396	-8.7%	684,228	885,090	-22.7%	9.1%	7.7%	1.4
Netherlands	48,341	32,113	50.5%	153,708	162,762	-5.6%	31.4%	19.7%	11.7
Spain	38,127	28,384	34.3%	407,757	456,832	-10.7%	9.4%	6.2%	3.1
Sweden	74,806	69,144	8.2%	144,182	173,163	-16.7%	51.9%	39.9%	12.0
EUROPEAN UNION	860,825	802,440	7.3%	4,608,205	5,361,371	-14.0%	18.7%	15.0%	3.7
Norway	60,541	69,378	-12.7%	68,505	83,930	-18.4%	88.4%	82.7%	5.7
Switzerland	27,460	22,706	20.9%	109,600	124,547	-12.0%	25.1%	18.2%	6.8
EFTA	92,864	94,764	-2.0%	187,372	214,518	-12.7%	49.6%	44.2%	5.4
United Kingdom	166,512	132,100	26.0%	802,079	909,973	-11.9%	20.8%	14.5%	6.2
EU+EFTA+UK	1,120,201	1,029,304	8.8%	5,597,656	6,485,862	-13.7%	20.0%	15.9%	4.1

Source: European Automobile Manufacturers' Association

One aspect that differentiates the European NEV market from the Chinese one is the higher proportion of PHEV models in Europe. The European market used to be dominated by PHEVs, and it is changing. In the first half of 2022, BEVs accounted for 57.8% of NEV registrations in Europe, improving by ten percentage points year-over-year. We should expect to see a faster shift towards BEVs in the coming months as Tesla's Gigafactory in Berlin-Brandenburg fully ramps up by the end of 2022 or early 2023. Tesla's Berlin factory has a designed capacity of 500,000 units per year.

Figure 3. European NEV registration volume breakdown



Source: European Automobile Manufacturers' Association

Market participants expect EV sales to recover in the third quarter in Europe. The full-year forecast stands around 2.5mn, a year-on-year growth of 18%.

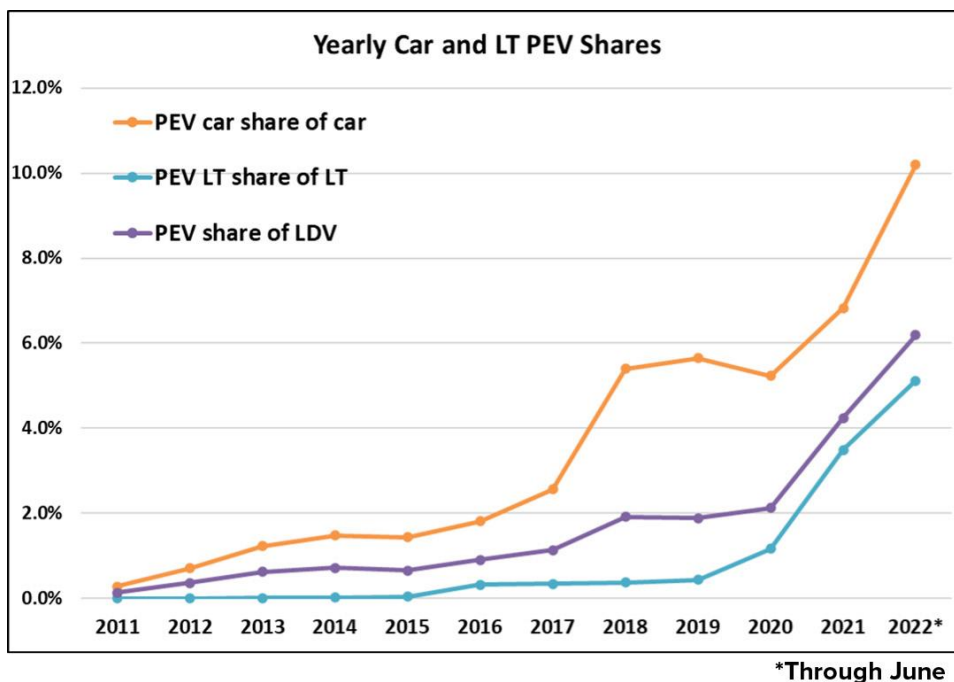
Volkswagen sold 160k electric vehicles (BEVs and PHEVs) in the first five months in Europe, taking an 18% market share. Stellantis ranked number two with a 16% market share, having sold 140k vehicles. BMW, Hyundai-Kia and Mercedes-Benz followed with 10-12% market share each. Tesla ranked 11th with a 7% market share having sold 61k cars.

In the United States, 410K electric vehicles (including both BEVs and PHEVs) were sold in 1H22, a 41.6% increase year-over-year, in line with expectations. Around 80% of these sales were pure battery models (BEVs).

The total number of cars sold in the United States (including both combustion engines and electric vehicles) dropped by 17.8% year-on-year to 6.8m vehicles.

The penetration of EV cars in the United States stood at approximately 6% in the first half, up from 4.3% for the full year 2021.

Figure 4. US plug-in electric vehicles penetration rate (purple line)



Source: Argonne National Laboratory

In the United States, Tesla sold 274k cars in the first half, taking a 58% market share. Hyundai-Kia, Stellantis, and Ford followed, with 9%, 6% and 6% market shares respectively.

To summarize, the EV penetration story has carried on across the world, with China dominating the sector and further increasing its dominance with a fully integrated specialized supply chain. The European and US automakers are catching up fast, building gigafactories locally for batteries and cars.

At this speed, full-year EV sales in 2022 might exceed 10m units globally with a 14% penetration rate, according to market estimates. In 2025, we might see one out of three new car sales in the world being electric vehicles.

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