

ELECTRIC VEHICLES

Setting a course for 2030

Electric vehicles accounted for about 4% of car sales in 2020. Here, Deloitte consultants Michael Woodward, Dr Bryn Walton and Dr Jamie Hamilton suggest how to seize opportunities and manage risks globally.

Combined annual sales of battery electric vehicles (BEVs) and plug-in hybrid EVs (PHEVs) topped the 2mn mark for the first time in 2019. Although this much-anticipated milestone may have been overshadowed by the pandemic, economic uncertainty and changed consumer priorities, there is value in taking stock of the EV market on the road to net zero.

Admittedly, COVID-19 has completely disrupted global sales and manufacturing, so a revised forecast based on updated data is needed. However, by examining recent trends in the EV market worldwide and noting many factors fostering growth in various directions, we have formed conclusions about how the market will take shape over the next decade.

The significant growth of EVs leading up to 2030 will present major opportunities and challenges for traditional original equipment manufacturers (OEMs), new entrant OEMs and dealerships.

Global progress

Despite the hopefully short-term impact of COVID-19, there is a pattern of continued growth for EVs and PHEVs which is expected to be sustained throughout the 2020s. EVs staked their claim with 4% share of all new car sales in 2020, according to EV-Volumes' database.

Looking back, in 2019, BEVs accounted for 74% of global EV sales, 6% above 2018. The rise was partly stimulated by new, stricter European emissions standards that persuaded manufacturers to favour production and sale of zero emission vehicles. Another factor is the advanced state of the BEV market in China, compared to the rest of the world. Although BEVs are still the dominant EV technology in the US and Europe, they command a smaller share of the market than in China.

There are significant regional disparities in growth. Sales of EVs grew 15% in 2019 compared to 2018, driven by the growth of BEVs in Europe (93%), China (17%) and other regions (22%). Whereas BEV sales in the US fell 2%. In 1H2020, COVID-19 slowed down the growth of EV sales across various regions, and the speed of recovery is expected to vary.

Generally, however, the course seems clear for growth over the next decade, despite the potential detrimental impact of the pandemic on total car sales over the next three years.

Regional markets

Europe: Europe's EV sector saw significantly more growth than other regions in 2019. The Nordics and the Netherlands continue to lead the way. Norway achieved 56% market share, and two of the top 10 best-selling cars in Holland were BEVs. The UK and some other countries reported triple-digit growth for the year. Favourable government policies and a change in consumer attitudes were the catalysts, driven primarily by growing concerns about climate change.

Climate change rose to the top of many European government's agendas. The UK committed to a target of net zero emissions by 2050 and proposed a ban on the sale of all polluting vehicles by 2030. Germany proposed to cut greenhouse gas (GHG) emissions by 40% by 2020, by 55% by the end of 2030 and up to 95% by 2050, compared to 1990 levels.

Despite the growth seen in 2019, mainstream adoption of EVs has been hindered by the limited number of models available in the European market and consumer perceptions regarding insufficient charging infrastructure in some regions.

The outbreak of COVID-19 and national lockdown measures impacted total car sales, but EV sales held up well in comparison to their internal combustion engine (ICE) equivalents.

China: China continues to dominate the EV market, accounting for half of all vehicle sales. Sales in 2H2019 were lower than expected after some subsidies available to Chinese consumers were halved. This considerably eroded consumer demand for EVs – PHEV sales fell 9% while BEV sales fell to a 17% growth rate from 2018 to 2019. However, a slowdown in the sale of ICE vehicles in the region means that the EV market share in China actually increased.

The Chinese authorities announced they would refrain from more subsidy cuts in 2020. Meanwhile, other incentives (for example, number plate privileges in Tier 1 cities) remain. Investment is being made in China's charging infrastructure and there is a continued focus on encouraging Chinese manufacturers to produce

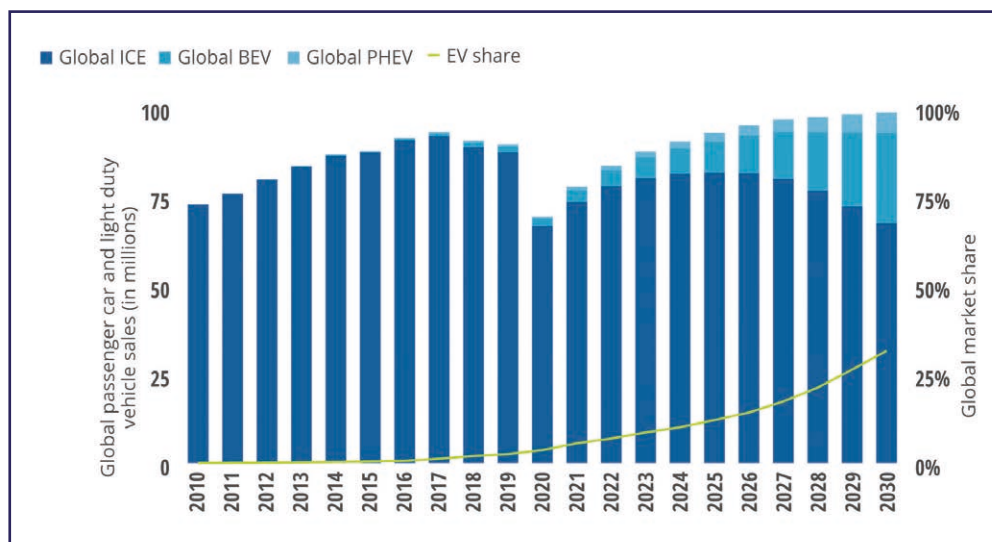


Figure 1: Outlook for annual global passenger car and light duty vehicle sales to 2030

Source: Deloitte analysis, IHS Markit, EV-Volumes

and market EVs.

Despite the pandemic and lockdown measures depressing passenger car sales in 1Q2020, by April 2020 manufacturing production had been restored to pre-pandemic levels. Although car sales (including EV sales) have remained depressed in certain Chinese provinces, recovery has been accelerated by pent-up demand, favourable policies put in place by Chinese authorities and the ability to purchase cars online – bringing a V-shaped recovery in China, with many individual EV manufacturers benefitting from the release of new models.

US: After an encouraging start in 2019, falling fuel prices in the US led to a disappointing second half of the year for EV sales. The US EV market is almost singlehandedly being carried by the success of the Tesla Model 3 – alone responsible for almost half of all EV sales.

As in Europe and China, US car sales fell sharply in the first three months of 2020 as the pandemic took a toll on demand. The recovery of EV sales is likely to be slower in the US than in other major regions, as manufacturers delay the launch of new cars and consumers take advantage of low oil prices.

Rest of the world: The world outside Europe, China and the US is lagging behind in terms of EV sales, for various reasons – a lack of government commitment to EVs, insufficient or unsuitable charging infrastructure, unavailability of EVs and cultural differences regarding mobility.

For example, Japan is a major global car market, but new car sales are dominated by domestic OEMs that have not yet developed the same range of EVs as their European and Chinese competitors. Meanwhile, India, like many markets, is dominated by mass- and low-cost mobility models – an area that OEMs haven't been able to penetrate so far, because of EVs comparative higher price.

2030 sales forecast

Deloitte has analysed the most recent indicators to develop a prediction of the EV market for the next 10 years. BEVs already outperform PHEVs globally and we predict that by 2030, BEVs will likely account for 81% (25.3mn) of all new EVs sold. By contrast, PHEV sales are expected to reach 5.8mn by 2030. A recovery from COVID-19 will see ICE vehicles return to growth, up to 2025 (81.7mn), then experience a decline in market penetration.

Deloitte's global EV forecast is



The US EV market is almost singlehandedly being carried by the success of the Tesla Model 3 – alone responsible for almost half of all EV sales in the country

Photo: Unsplash

for a compound annual growth rate (CAGR) of 29% achieved over the next 10 years. With total EV sales growing to 11.2mn in 2025, then reaching 31.1mn by 2030. EVs could secure about 32% of the total market share for new car sales. However, annual car sales are unlikely to reach pre-pandemic levels until 2024. The pace of recovery is forecast to be the result of a slowdown in ICE sales. EVs will continue to have a positive trajectory during the COVID-19 recovery period and may well end up capturing a disproportionate share of the market in the short term.

Deloitte expects that by 2030, China will hold 49% of the global EV market, Europe will account for 27%, and the US will hold 14%.

The share of new car sales taken up by EVs will vary considerably across markets. Deloitte forecasts that China will achieve a domestic share of about 48% by 2030 – almost double that of the US (27%), and Europe should achieve 42%. Growth in Northern and Western Europe is expected to outstrip that in Southern and Eastern Europe as wealthier countries (such as the UK, Germany, France, the Netherlands and Nordic countries) are likely to invest more in infrastructure and offer greater cash and tax incentives to accelerate initial growth.

EV growth beyond 2030

Beyond 2030, Deloitte expects the growth in EV sales to slow. Some markets will be unable to support the transition to EVs in the same way the wealthier nations will over the next decade.

One of the key factors in sustaining growth will be the implementation of suitable charging infrastructure. This

requires multi-billion dollar capital investments – achievable in some markets through a combination of public and private investment, but unlikely to be achieved routinely around the world. In countries that cannot invest in charging infrastructure, we expect the market for ICE vehicles to remain for some time.

Factors driving growth

The long-term outlook for EVs is strong. The significant shift in expected volume of BEVs and PHEVs is based on four factors – consumer sentiment, policy and regulation, OEM strategy, and the role of corporate companies (fleet demand).

Factor 1: There are several reasons consumers haven't swapped their ICE vehicles for equivalent EVs – driving range, cost/price premium, charging time, lack of charging infrastructure, safety and battery concerns. However, as barriers to adoption are rapidly removed, EVs are increasingly becoming a realistic and viable option.

Factor 2: Government intervention continues to play an important role in driving EV sales, as shown by success in Norway, the Netherlands and China.

Factor 3: Increasingly, prominent OEMs have announced strategic commitments to EVs. New models have been announced, production targets increased and sales targets moved forward.

Factor 4: Corporate companies are increasingly important to support the transition to EVs, using the above three factors above to their advantage. Deloitte predicts that corporates will account for 63% of total new car sales across Western Europe by 2021/2022. Although investment in fleets has stalled dramatically during the pandemic, as business confidence returns, corporates need to consider fundamental changes to how and where work is done, that will affect the structure of their mobility schemes.

Looking forward

Deloitte expects the existing price premium associated with EVs to be consigned to history sooner rather than later – when it will be commonplace for consumer and fleet transport 'to go electric'. ●

*This is an edited version of Deloitte Insight's report *Electric vehicles: Setting a course for 2030*, November 2020.