Deutsche Bank
Research

Talking Point

July 6, 2022

E-mobility

Big differences in Europe – structural change in Germany

Author
Eric Heymann
+49(69)910-31730
eric.heymann@db.com

www.dbresearch.com

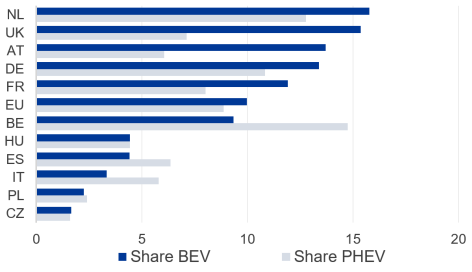
Deutsche Bank Research Management
Stefan Schneider

From 2035, only climate-neutral passenger cars will be allowed to be registered in the EU. In principle, the course is being set in the direction of battery-electric mobility. However, the option of using e-fuels is not completely off the table. The market shares of electric cars in total new registrations currently vary widely within the EU. Southern and Eastern European countries are lagging behind. To increase the acceptance of e-mobility, the expansion of the charging infrastructure must be widely accelerated. This is a major challenge that also requires the support of the state. The trend towards electric mobility has already triggered a noticeable structural change in Germany as an automotive location. The net impact of this structural change on value creation and employment in Germany is likely to be negative.

The EU environment and energy ministers have agreed that only CO2-emission-free new vehicles may be registered from 2035; this applies to passenger cars and light commercial vehicles. The formal ban on the internal combustion engine (for new registrations from 2035), which the EU Parliament had already passed, is indeed part of the decision. However, in 2026, it may be examined whether synthetically produced fuels based on renewable energies will also be classified as CO2-neutral. Such a test is not mandatory under the current resolution, but an option. Should this option take effect, new vehicles that can exclusively be filled up with such e-fuels would still be allowed to be registered after 2035. In the run-up to the ministerial meeting, the question of whether e-fuels would be accepted as climate-neutral fuels was a point of contention – not least within the traffic light coalition. While the FDP has spoken out in favour of e-fuels as an option, citing openness to technology, the SPD and the Greens are focusing primarily on battery electric cars.

E-mobility: Huge differences in Europe

Share of BEV and PHEV in total new passenger registrations, Q1 2022, %



Source: ACEA

Electric cars gain market share, but big differences in Europe remain

In recent years, the share of electric cars in total new passenger car registrations in Europe has risen strongly. In Q1 2022, battery electric vehicles (BEVs) made up a 10% share in the EU. Plug-in hybrids (PHEV) achieved a market share of 8.9%. There were considerable differences within Europe. For example, the BEV share was particularly high in the Netherlands (15.8%) and the UK (15.4%) in Q1 2022. In contrast, Italy (3.3%), Poland (2.2%) and the Czech Republic (1.7%) were well below the average. Germany exceeded the EU average with 13.4%.
The differences are also considerable for PHEVs. In the selected group of countries, Belgium led the way here in Q1 2022 with 14.8%, ahead of the

Netherlands (12.8%) and Germany (10.8%). The Eastern European countries recorded very low PHEV shares. Unsurprisingly, electric cars are achieving higher market shares primarily in those countries where they are more heavily subsidised at the time of purchase or during operation. In addition, the share of e-cars in countries with lower per capita incomes tends to be lower than in wealthier countries. In any case, the buying behaviour of car drivers in the EU will have to change dramatically by 2035 if (almost) 100% of all new passenger cars are to be fully electric by then.

The e-fuels option does no harm

Returning to the issue of e-fuels, the dispute is puzzling to us from a regulatory law perspective. If one takes the demand for technology openness seriously, it is hardly expedient to exclude a range of individual technologies that could contribute to climate protection. From a technological point of view, it is not clear why this option should be examined by 2026 only, if at all. In any case, it increases the uncertainty of corresponding investments.

On the one hand, many automakers have announced that they will convert their entire new vehicle fleets to BEVs by 2035 at the latest – at least for the European market. Without a doubt, the majority of everyday journeys can already be made with BEVs without any restrictions. An additional advantage of battery-electric mobility is the low noise emissions and the lack of local pollutant emissions. Finally, e-fuels should remain scarce and expensive for some time still.

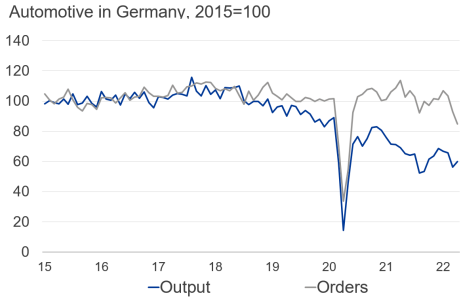
On the other hand, there is also likely to be technical progress in synthetic fuels, which, together with economies of scale in production, will likely lead to falling costs. From the user's point of view, there will probably still be applications in 2035 where BEVs do not offer an optimal solution. This applies, for example, to vehicles that have to pull heavy loads (from caravans to trailers in the commercial sector), or cars with high daily mileage and/or high payloads (e.g. vans used in the craft sectors). It is also undisputed that there will still be a need for synthetic fuels regardless, because in the transport sector in particular, complete electrification is not possible, not practical or not economical in the foreseeable future for some applications. This applies to aviation, shipping, construction and agricultural machinery, or heavy-duty transport. In addition, countries where there is a shortage of electricity or where there are large deposits of biofuels will not likely opt for electromobility for the time being. It is therefore essential to also focus on technical progress in e-fuels. If, in 2035 and beyond, there are still niche applications in the passenger car and small commercial vehicle segment in the EU that are not covered by pure battery-electric mobility, e-fuels could be a viable option. If widely available, it could also reduce emissions from existing vehicles that have internal combustion engines. What is more, no one is forcing the automotive industry to continue offering cars with combustion engines in the EU in 2035. At the end of the day, the option for e-fuels does no harm, in our view. And to be honest, it has to be said that BEVs will not be climate-neutral for many years to come.

More charging stations, longer range

The share of electric cars in new car registrations in Europe is likely to continue to rise in the coming years. At the same time, plug-in hybrids are likely to lose importance because countries, such as Germany, will cut subsidies. The dynamics of the market ramp-up will remain dependent on the

regulatory framework in the future. If, for example, subsidies for electric cars are cut back, this will dampen demand, although e-cars will become cheaper relative to vehicles with internal combustion engines. From the user's point of view, two factors (in addition to purchase prices) are likely to be particularly important in the purchase decision in the coming years, and these are interlinked: the range of the vehicles and the density of the network of charging stations. The range of e-cars for everyday driving is already more than sufficient. However, many users still see the shorter range compared with a combustion engine and the longer charging times compared with conventional refuelling as a barrier to buying an electric car. This is especially true if a household owns only one car, which must cover all mobility needs. Therefore, the charging infrastructure needs to be expanded, especially along German motorways (for vacation and other long-distance trips) and in urban centres, where cars are usually parked in public spaces rather than in a private garage. Without this, the acceptance of e-cars will suffer. The expansion of the charging infrastructure is a huge financial and technological challenge that also requires the support of the state. In any case, the pace of expansion has varied widely across Europe so far. The European Automobile Association (ACEA) has just found that 50% of all public charging points in the EU are concentrated in just two countries (the Netherlands and Germany).

Low output level



Source: Federal Statistical Office

Structural change in the German automotive industry

The trend towards electric mobility has already triggered a noticeable structural change in Germany as an automotive location. On the one hand, many companies have announced their intention to locate factories to produce batteries in Germany. Many automakers are converting their production facilities to manufacture e-cars. On the other hand, this development is being offset by losses in value added by those automotive suppliers that primarily produce parts and components for cars with internal combustion engines. In any case, many suppliers are currently in a difficult position because the ongoing shortage of intermediate goods in the industry is making it harder to achieve economies of scale in production and because the prices of many materials have risen significantly. Price negotiations with manufacturers, who have focused on the production of high-margin vehicles in recent quarters, are likely to be a headache for many suppliers at present. Studies[i] show that Chinese investors in particular are once again taking over more suppliers in Europe. Since mid-2018, almost 13% of all jobs have already been cut at automotive suppliers in Germany, and since then, the figure for car manufacturers has been "only" 7%.

During the structural change, it is likely to become increasingly difficult to keep production of passenger cars in the volume segment in Germany for cost reasons. The recent example of the Ford assembly plant in Saarlouis illustrates this. The plant lost out to the site in Valencia, Spain, in the Group's internal competition.

Ultimately, many of the developments we described in our report on the "Future of Germany as an automotive location" at the beginning of 2021 are already becoming apparent. At that time, we stated that the net impact of structural change on value creation and employment in Germany would be negative. In addition, we explained that the German automotive industry (especially the manufacturers) is better equipped for the electric mobility future and other structural challenges than Germany as an automotive location. We believe both statements are still valid today. Measured by the

production index, domestic production in the automotive industry in the first four months of 2022 was 42% below the corresponding level in 2018. The previous highs in the sector are unlikely to be reached again.

[i] https://www.ey.com/de_de/news/2022-pressemitteilungen/03/ey-chinesische-investoren-2022