

# The case of the automobile industry: moving towards electromobility

**19% and growing**

Share of road transport in EU emissions

**Total transport made up 27% of total EU28 GHG emissions**

Source: EEA, 2017

Besides the energy sector, road transport is a major source of EU GHG emissions (with roughly 19% of the EU total in 2018) and unlike the energy sector, road transport has been a source of emissions growth in the last few years. According to the European Energy Agency (EEA 2019b), in 2017 transport made up 27% of total EU28 GHG emissions, and specifically road transport was responsible for 19% of EU emissions (for comparison, aviation constituted 3.5% and rail less than 0.2%).

As of May 2020, with 3.7 million quality jobs in automobile manufacturing and a total of 14.6 million jobs in the broader European automotive sector, the industry remains a key employer in Europe (ACEA 2020a). Digitalisation and decarbonisation are likely to reshape the entire business model of this industry, and throw unprecedented challenges in the way of its future, first and foremost by redefining the ways in which labour is sourced and used, and secondly by reorganising its entire value chain.

Figure 3.11 shows the evolution of average CO<sub>2</sub> emissions from new passenger cars for the EU27, the UK and Norway between 2000 and 2019.

## A quantum technological leap needed to meet emissions targets

Following a moderate decrease in car emissions between 2000 and 2007, the reduction became steeper and continued in this trend up until 2014: this amounted to a total reduction of 29% over these 14 years. Since 2015, however emissions have been rising again, with average emissions at 122.4g

CO<sub>2</sub>/km in 2019. Reaching the EU emissions target of 95g CO<sub>2</sub>/km by 2021 would require a colossal effort from the car industry.

Yet despite the many uncertainties and structural pressures, the European automobile industry still managed to squeeze out a record year in 2019. Compared to 2018, new-car registrations increased by 1.2% across the European Union, reaching more than 15.3 million in total and marking the sixth consecutive year of growth (ACEA 2020b).

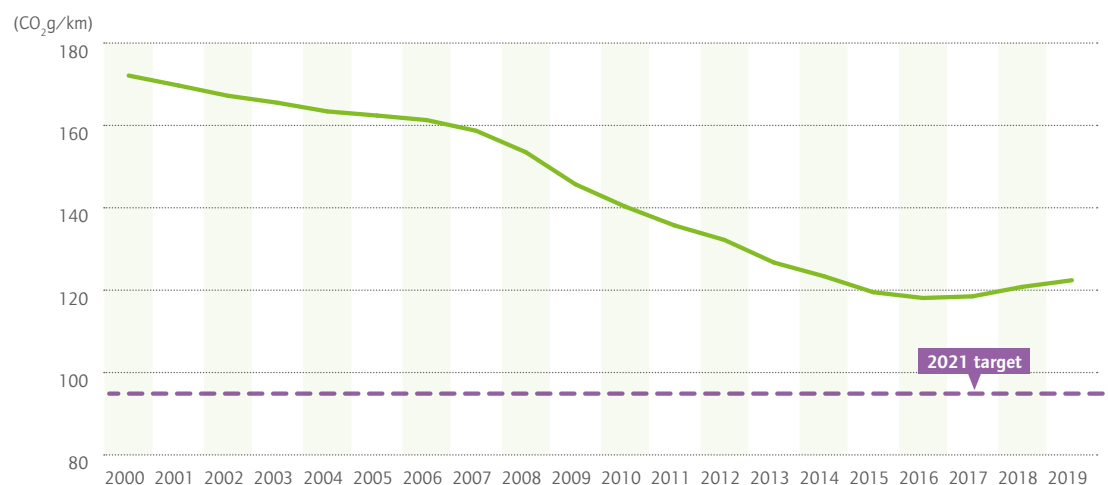
However, 2020 has already shaped up to be a very different year for the industry, not least because of the Covid-19 crisis. New car registrations in June 2020 were far behind those of June 2019, as Figure 3.12 shows.

Most EU countries saw double-digit drops. Italy, Germany and Spain fell by 23%, 32% and 36% respectively, while Portugal recorded the highest decrease of 56%. France was the only Member State that recorded a growth in new car sales due to its recovery plan that also favoured car purchases.

## Europe is way behind China on electromobility

The path for the future is towards zero-carbon mobility, where battery (fully) electric vehicles (BEVs) will have a central role, even if Europe is still at the very beginning of this transformation. Figure 3.13 shows the evolution of the stock of electric vehicles since 2015 in global comparison. In 2015 the spread of passenger vehicles with electric propulsion was still in an embryonic phase, as the total number of such vehicles, including BEVs and plug-in hybrids (PHEVs), constituted just 639,000 worldwide (IEA 2020). In that year, 98% of BEVs were

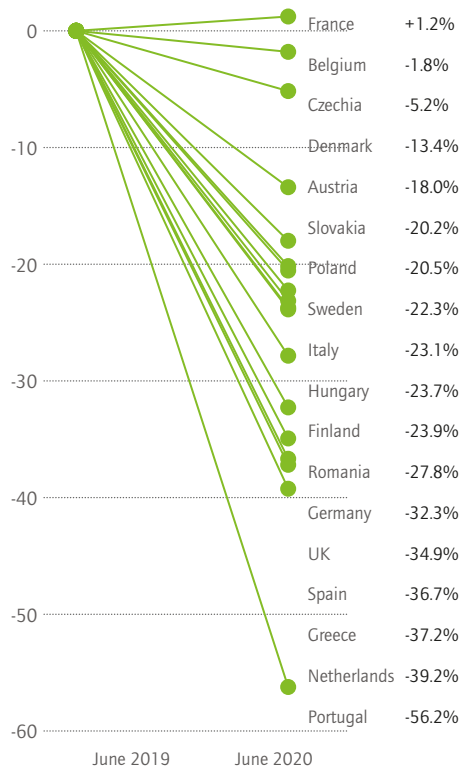
**Figure 3.11** Average CO<sub>2</sub> emissions from new passenger cars in the EU27, UK and Norway (CO<sub>2</sub> grams per kilometre)



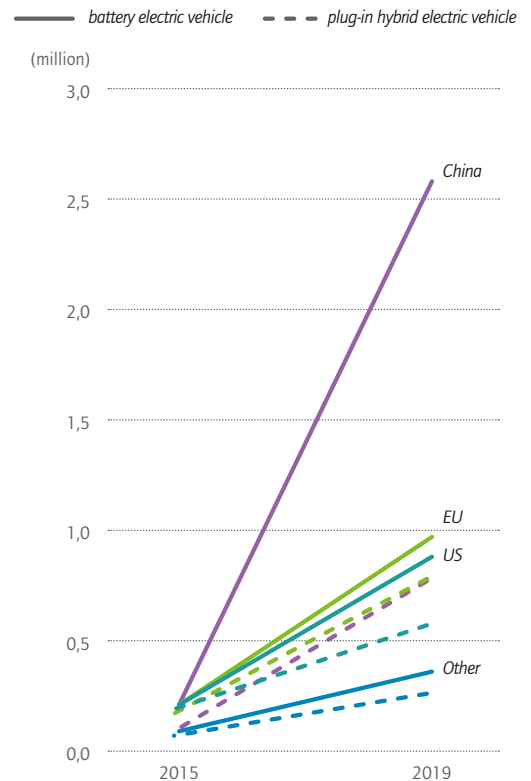
Source: EEA 2020 <https://www.eea.europa.eu/data-and-maps/indicators/average-co2-emissions-from-motor-vehicles/assessment-2>.

# 56% Portugal: highest decrease in the EU in new car registrations in 2020

**Figure 3.12** Number of new car registrations in key European markets in June 2019 and 2020 (in 1 000 units)



**Figure 3.13** Global electric car stock, 2019



Source: IEA, 2020 <https://www.iea.org/reports/global-ev-outlook-2020>.

# EU 20% vs. China 53%

Change in new car registrations in key European markets, June 2020/June 2019, (%)

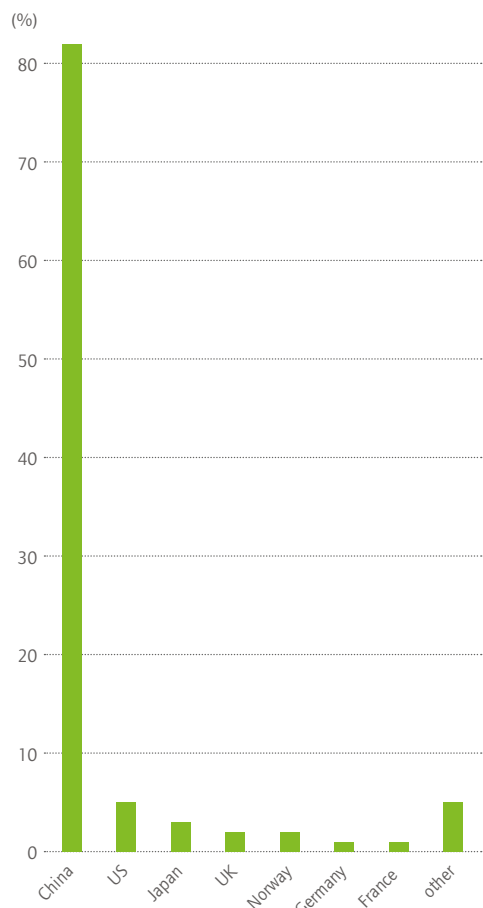
equally shared between the EU, the US and China, and these three regions also made up the overwhelming majority of PHEV global stock. There has since been a spectacular growth in the pure electric BEV category, as between 2015 and 2019 the stock (still a tiny fraction of the total passenger car market) quadrupled in the US, grew almost fivefold in the EU and grew a staggering twelvefold in China. In 2019, China had 53% of all battery electric vehicles in the world, while the EU's share was 20%. Although the EU made some progress in plug-in hybrids and, in 2019, slightly overtook China, this technology ought to be seen as an interim stage towards full electric mobility.

The dominance of China is even more pronounced in publicly accessible electrical vehicle chargers (for both conventional slow chargers and fast chargers). Figure 3.15 shows data for publicly accessible fast chargers (IEA 2020).

The data speaks for itself: China has 82% of global publicly accessible electrical vehicle fast chargers worldwide, followed by the US (5%), Japan (3%), the UK and Norway (2%) and Germany and France (1%).

For Europe, there is a long way to go in both speeding up BEV production and sales and establishing the necessary charging infrastructure. It is a positive sign that the EU Recovery Fund and the Next Generation EU Investment programme include these as priorities.

**Figure 3.14** Publicly accessible electric vehicle fast chargers, 2019 (% of the global total of 598,000)



Source: IEA, 2020 <https://www.iea.org/reports/global-ev-outlook-2020>.