

## MARKET MONITOR

### EUROPEAN PASSENGER CAR REGISTRATIONS: JANUARY-DECEMBER 2020



The COVID-19 pandemic had a significant effect on the European car market in 2020, with new registrations hitting a lowmark of -79% in April 2020, compared to new registrations one year earlier. By the end of the year, the market had recovered somewhat: in total, new car registrations were 25% lower than in 2019. Among manufacturers, Kia was affected the least (-16%) while the PSA-Opel pool was facing the strongest year-to-year decline (-30%). The market-wide share of electric vehicles increased from 3% in 2019 to 11% in 2020. About half of the electric vehicles newly registered were battery-electric (6%), with the other half being plug-in hybrid electric (5%). Throughout the year, the share of electric vehicles grew continuously and reached a level of 23% in the month of December. In the case of Daimler, electric vehicles accounted for almost half (46%) of new registrations in December (33% plug-in hybrid, 13% battery electric vehicles). For the full year of 2020, Daimler (21%), BMW (17%), and Kia (17%) had the highest shares of electric vehicles, plug-in hybrid vehicles included. All manufacturer pools reached electric vehicle market shares above 10%, except for the Toyota-Mazda (2%) and the PSA-Opel (7%) pools. Average new car CO<sub>2</sub> emission levels went from 122 g/km (NEDC) in 2019 to an estimated level of 107 g/km in 2020. This equals a reduction rate of about 1 g/km *per month*, while from 2015 through 2019 the rate of reduction was at about 0.6 g/km of CO<sub>2</sub> *per year*. All manufacturer pools were in compliance with their respective 2020 CO<sub>2</sub> target levels, or very close, so no substantial penalty levels are expected. Assuming conservative estimates for phase-in and eco-innovation credits, the average new car CO<sub>2</sub> level in 2020 was 97 g/km (NEDC). With the same estimates, the VW pool would have missed its target by 4 g/km, and the Daimler pool by 3 g/km. Meanwhile, the companies themselves announced that VW had missed its target by only 0.5 g/km and that Daimler exactly met its target, suggesting that phase-in and eco-innovation credits were exploited slightly more than assumed for this analysis.

**Table 1.** New passenger car registrations, by manufacturer.

	New car registrations			
	Dec 2020	Dec 2019	2020	2019
VW Group	296,987	5%	2,958,845	-21%
PSA-Opel	157,589	0%	1,723,970	-30%
Renault	120,774	-17%	1,189,958	-26%
FCA-Tesla-Honda	103,485	6%	859,451	-25%
Ford-Volvo	90,100	-19%	952,174	-28%
BMW	83,150	-12%	819,116	-19%
Toyota-Mazda	81,655	1%	827,056	-20%
Daimler	74,599	-15%	751,951	-25%
Hyundai	42,637	0%	413,550	-25%
Kia	30,973	-15%	416,561	-16%
Nissan	28,723	-10%	283,802	-27%
Other	46,092	-20%	497,470	-30%
<b>ALL</b>	<b>1,156,764</b>	<b>-6%</b>	<b>11,693,904</b>	<b>-25%</b>

**Table 2.** Share of electric vehicles, by manufacturer.

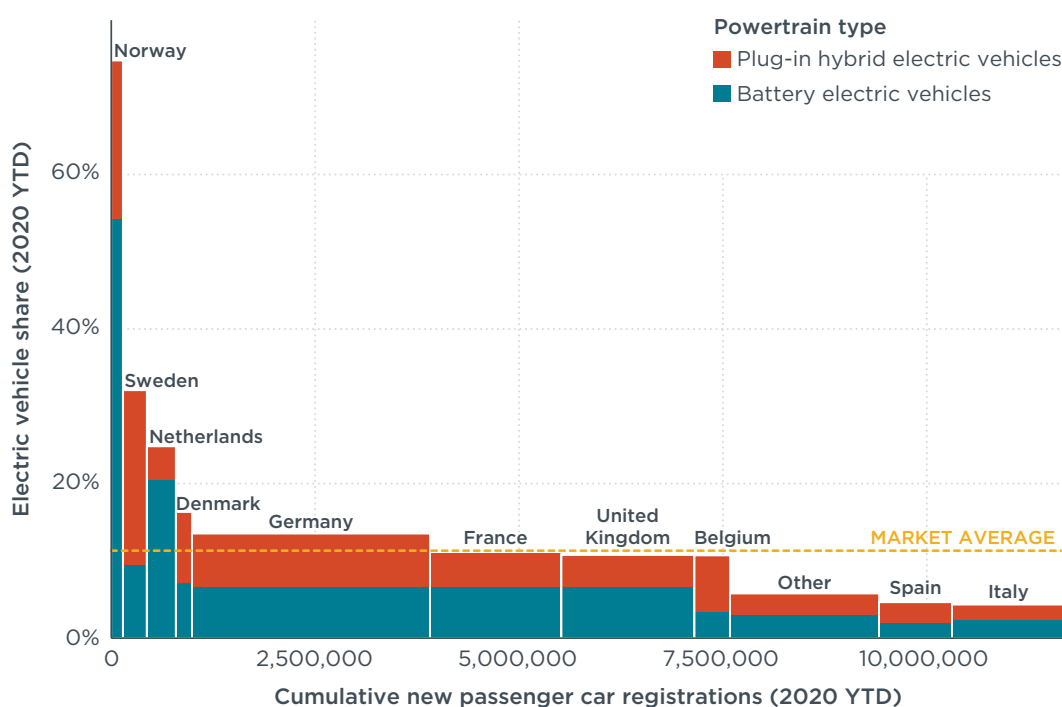
	Share of electric vehicles		
	Dec 2020	2020	2019
Daimler	46%	21%	3%
FCA-Tesla-Honda	32%	13%	9%
Other	30%	13%	8%
Hyundai	30%	15%	7%
BMW	26%	17%	9%
Kia	26%	17%	6%
VW Group	25%	11%	2%
<b>AVERAGE</b>	<b>23%</b>	<b>11%</b>	<b>3%</b>
Renault	23%	10%	3%
Nissan	18%	11%	9%
Ford-Volvo	16%	12%	3%
PSA-Opel	9%	7%	0%
Toyota-Mazda	6%	2%	0%

**Table 3.** New passenger car fleet average CO<sub>2</sub> emission level, by manufacturer.

	Target gap	New car fleet average CO <sub>2</sub> (in g/km)									
		Dec 20		2020		Compliance credits			Status 2020	Target 2020	Target gap
		WLTP	NEDC	WLTP	NEDC	PI	EC	SC	NEDC	NEDC	NEDC
<b>PSA-Opel</b>	-3%	119	95	122	98	3.0	0.1	5.3	90	92	-2
<b>BMW</b>	-2%	120	99	136	112	3.0	0.9	7.5	101	103	-2
<b>Renault</b>	-2%	101	85	120	101	3.0	0.2	7.5	91	92	-1
<b>Hyundai</b>	-1%	92	81	118	103	3.0	0.0	7.5	93	94	-1
<b>Kia</b>	-1%	102	88	119	104	3.0	0.0	7.5	93	94	-1
<b>Nissan</b>	0%	117	94	132	106	3.0	0.1	7.5	95	95	0
<b>Toyota-Mazda</b>	0%	113	92	122	99	3.0	0.1	1.8	94	95	-1
<b>AVERAGE</b>	<b>1%</b>	<b>111</b>	<b>91</b>	<b>129</b>	<b>107</b>	<b>3.0</b>	<b>0.2</b>	<b>6.7</b>	<b>97</b>	<b>96</b>	<b>1</b>
<b>Ford-Volvo</b>	2%	127	107	134	112	3.0	0.1	6.8	103	101	2
<b>FCA-Tesla-Honda</b>	3%	93	78	129	108	3.0	0.1	7.5	97	94	3
<b>Daimler</b>	3%	99	84	138	117	3.0	0.7	7.5	105	102	3
<b>VW Group</b>	4%	113	93	136	112	3.0	0.0	7.5	101	97	4

Notes: PI = phase-in, EC = eco-innovations, SC = super-credits; all CO<sub>2</sub> values are estimates, see methodology section.

The registration share of electric vehicles in 2020 was the highest in Norway (75%), with two-thirds of being battery electric vehicles. Iceland (46%), Sweden (32%), the Netherlands (25%), Finland (18%), Denmark (16%), Germany (14%), and Portugal (12%) also currently have electric vehicle registration shares above the European average of 11%. In the Netherlands, 72% of all new cars registered in December 2020 were electric vehicles, in Sweden it was 49% of all new vehicles, and in Belgium and Germany 27%. Spain (1% in 2019, 5% in 2020) and Germany (3% in 2019, 14% in 2020) were among the markets with the strongest increase in electric vehicle market share.



**Figure 1.** Share of electric vehicles, by country, including information on market size (cumulative car registrations).

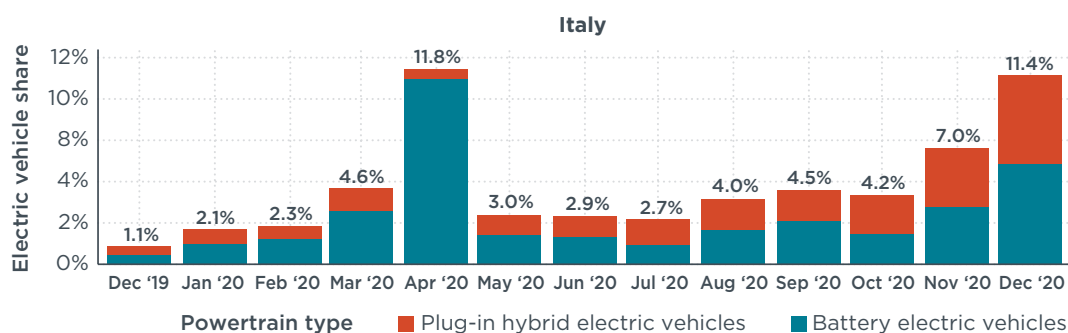
**Table 4.** New passenger car registrations, by country.

New car registrations				
	Dec 2020	Dec 2019	2020	2019
Germany	311,394	10%	2,917,678	-19%
France	170,166	-19%	1,611,400	-27%
United Kingdom	132,682	-11%	1,631,064	-29%
Italy	119,345	-15%	1,383,596	-28%
Spain	111,030	0%	895,769	-32%
Poland	51,532	-2%	428,444	-23%
Netherlands	42,829	3%	356,053	-20%
Sweden	34,347	-28%	293,221	-18%
Belgium	30,217	-10%	436,930	-21%
Austria	23,961	5%	251,709	-24%
Other	129,261	-2%	1,488,040	-22%
<b>ALL</b>	<b>1,156,764</b>	<b>-6%</b>	<b>11,693,904</b>	<b>-25%</b>

**Table 5.** Share of electric vehicles by country.

Share of electric vehicles			
	Dec 2020	2020	2019
Netherlands	72%	25%	15%
Sweden	49%	32%	11%
Belgium	27%	11%	3%
Other	27%	14%	7%
Germany	27%	14%	3%
United Kingdom	23%	11%	3%
<b>AVERAGE</b>	<b>23%</b>	<b>11%</b>	<b>3%</b>
Austria	19%	9%	3%
France	18%	11%	3%
Italy	11%	4%	1%
Spain	10%	5%	1%
Poland	3%	2%	0%

In Italy, the share of electric vehicles reached 11% of total new car registrations in December 2020. A similar level was reached in April, although at that time few new cars were registered in Italy due to a hard COVID-19 lockdown in place. In July, the Italian government decided to strongly increase subsidies for electric vehicles. Starting in August, consumers could obtain a purchase premium of up to €6,000 (€10,000 if scrapping an old car) when opting for a battery electric vehicle and up to €3,500 (€6,500 if scrapping an old car) in the case of a plug-in hybrid electric vehicle.



**Figure 2.** Share of electric vehicles in Italy (spotlight of the month).

## DEFINITIONS, DATA SOURCES, METHODOLOGY, AND ASSUMPTIONS

**Manufacturer pools:** Automakers are allowed to form pools to jointly comply with CO<sub>2</sub> targets. For this factsheet, the definition of pools according to the European Commission, “M1 pooling list”, version of 30 October 2020 applies (main brands listed here): VW Group (Audi, Audi, e.GO, LEVC, MG, Porsche, SEAT, Škoda, VW), PSA-Opel (Citroën, DS Automobiles, Opel, Peugeot, Vauxhall), Renault (Dacia, Renault), FCA-Tesla-Honda (Alfa Romeo, Fiat, Honda, Jeep, Lancia, Tesla), BMW (BMW, Mini), Toyota-Mazda (Lexus, Mazda, Toyota), Daimler (Mercedes-Benz, Smart), Ford-Volvo (Ford, Volvo), Hyundai (Hyundai), and Kia (Kia). In addition, one manufacturer not forming a pool (Nissan) is included for this factsheet.

**Abbreviations:** CO<sub>2</sub> = carbon dioxide emissions; g/km = grams per kilometer; YTD = year to date.

**Technical scope:** This factsheet focuses on new **passenger car** registrations of category M1. Light commercial vehicles are not included. **Electric vehicles** here include battery electric, plug-in hybrid electric, and fuel cell vehicles.

**Geographic scope:** The European CO<sub>2</sub> regulation for vehicle manufacturers applies to all countries of the European Economic Area (EEA). This includes the 27 member states of the European Union, plus Iceland, Liechtenstein, Norway, and the United Kingdom (UK). Data for new car registrations and shares of electric vehicles in this factsheet cover all of these countries, with the exception of Bulgaria, Liechtenstein, and Malta. Data for CO<sub>2</sub> emission levels additionally omit Hungary, Lithuania, Poland (until April 2020), Portugal, and Romania (together less than 10% of the total market).

**Data sources:** AAA DATA (France), SMMT (UK), Dataforce (all other markets).

**Results may change over time:** Registrations and/or CO<sub>2</sub> data may be retrospectively updated by some of the national type approval authorities. YTD values are regularly updated to reflect all latest data available.

**Test procedures:** For the conversion of CO<sub>2</sub> values from the New European Drive Cycle (**NEDC**) to the *Worldwide harmonized Light vehicles Test Procedure (WLTP)*, manufacturer-specific factors based on 2019 market data are applied.<sup>1</sup>

**Flexible compliance mechanisms:** To facilitate meeting their CO<sub>2</sub> targets, manufacturers can make use of a number of compliance mechanisms: (1) For 2020, the top 5% of new car registrations with the highest CO<sub>2</sub> emission level will be omitted from the calculation of a manufacturer’s average CO<sub>2</sub> emissions (**phase-in** provision). We estimate this to lower each manufacturer’s 2020 CO<sub>2</sub> level by approximately 2-5 g/km, on average by approximately 3 g/km, (2) Manufacturers can reduce their CO<sub>2</sub> level by up to 7 g/km by deploying **eco-innovation** technologies. As a conservative estimate, we apply the 2019 level of eco-innovation CO<sub>2</sub> emission reductions per manufacturer<sup>2</sup>, (3) New registrations of vehicles with less than 50 g/km CO<sub>2</sub>/km (NEDC) in 2020 are counted twice (**super-credit** multiplier of 2.0). The impact of super-credits for complying with the CO<sub>2</sub> targets is capped at 7.5 g/km per manufacturer for the years 2020-2022 together.

**Mass-based targets:** For each manufacturer pool, a specific **2020 CO<sub>2</sub> target value** applies, depending on the average mass of the new cars registered. For this factsheet, we assume the average mass per manufacturer pool to remain constant with respect to the market situation in 2019.<sup>3</sup>

- 1 Applying the methodology outlined in: Jan Dornoff, Uwe Tietge, and Peter Mock, *On the way to “real-world” CO<sub>2</sub> values: The European passenger car market in its first year after introducing the WLTP*, (ICCT: Washington, DC, 2020), <https://theicct.org/publications/way-real-world-co2-values-european-passenger-car-market-its-first-year-after>
- 2 Applying the methodology outlined in: Uwe Tietge, Peter Mock, and Jan Dornoff, *Overview and evaluation of eco-innovations in European passenger car CO<sub>2</sub> standards*, (ICCT: Washington, DC, 2018), <https://theicct.org/publications/eco-innovations-european-passenger-car-co2-standards>.
- 3 Uwe Tietge, Peter Mock, and Jan Dornoff, *CO<sub>2</sub> emissions from new passenger cars in Europe: Car manufacturers’ performance in 2019* (ICCT: Washington, DC, 2020), <https://theicct.org/publications/co2-new-passenger-cars-europe-aug2020>.

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