Updated

BEV forecast to 2025

Monthly volumes by manufacturer, model, sector

The European Electric Car Report

West European Market Intelligence

"Western Europe becomes the world's largest plug-in car market"

Edition 12.2020 Full Year

Western Europe 18 Markets: EU Member States prior to the 2004 enlargement, plus EFTA markets Norway, Switzerland, Iceland, plus UK

In this report: BEV = Battery Electric Vehicles, PHEV = Plug-in Hybrids, xEV = BEV +PHEV

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Schmidt Automotive Research

Executive Summary

W-European xEV market finishes ahead of China thanks to a compliance boosted >0.5 million plug-ins in Q4

Matthias Schmidt | Publisher

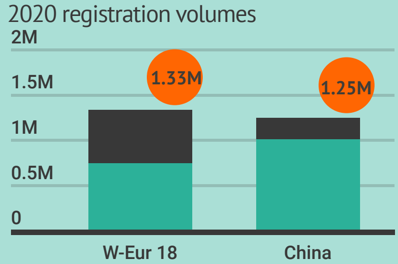
As manufacturers scrambled to meet EU (and Swiss) CO2 compliance levels with a last-minute registrations splash-and-dash in December, contributing to total xEV (BEV/PHEV) plug-in registrations exceeding 0.5 million units in the final quarter of the year, as billed: 2020 lived up to its claim of being the first genuine year where EVs moved from the slow hanging fruit lane to the mainstream, narrowly failing to miss this report's pre-COVID original forecast of 770,000 units. Annual registrations doubled over previous year levels to 727,927 units, while PHEVs – also a key strategic tool in meeting latest fleet average CO2 targets – saw volumes achieve 606,466 units, combining to see West European xEVs surpass Chinese new plug-in passenger car registrations (see graphic below) last year to become the world's largest region for externally rechargeable passenger cars. Significantly, every eighth (2020: 12.4% plug-in mix) passenger car entering Western Europe's roads last year (Q4 2020: 19.1% plug-in mix) was either a PHEV or BEV (see Tab. 12/01). The pandemic's grip on the total passenger car market, recording its lowest volumes since 1985, ironically contributed to BMW Group, PSA, Renault and Daimler all achieving their CO2 compliance targets last year, according to company data. According to Volkswagen Group, the Wolfsburg-based German manufacturer, revealed that they failed to meet their CO2 target, falling short by 0.5g/km. A company spokesperson told this report that it was likely contributed to by the ID.3 (MEB) model's delayed market launch, resulting from software issues delaying customer deliveries.

Long-billed as the kick-start to Europe's move away from ICEs and towards EVs thanks to the EU block's CO2 legislation essentially forcing car manufacturers hand, 2020 produced the goods with December even witnessing every fourth new passenger car registration being a plug-in. As an immediate sequel, thanks to the EU fleet average CO2 emissions targets only being phased-in last year, with the worst 5 per cent from each fleet being omitted, 2021 will see momentum maintained if be it with a slightly reduced growth rate. In 2021 manufacturers entire fleet will count towards average fleet totals as well as a reduced value of so-called super-credits on offer (if manufacturers have any of their limited 7.5g/km amount left, spread over three years). 2021 is consequently set to be the full gala evening performance following the afternoon press-preview event in 2020. This report expects 2021 to see a BEV market penetration rise to 8.5 per cent, translating to 1.045 million units in a recovering 12.3 million total West European passenger car market. With PHEVs added to the equation, key in helping meet compliance, especially for premium manufactures, the 2021 xEV market is forecast to account for 15.5 per cent of the market, or 1.907 million units.

Europe No.1 ahead of China

New Passenger Car xEV (BEV/PHEV)

2020 registration volumes



Source: CAAM/Schmidt Auto Research

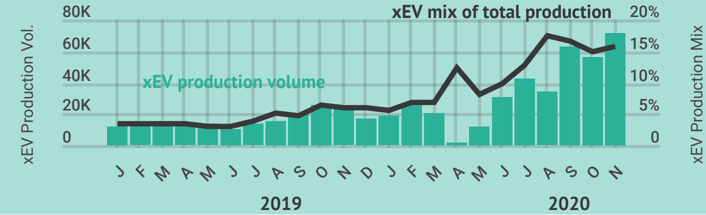
W-European plug-in car market edges ahead of China

West European xEV passenger car registrations finished the year 90,000 units ahead of China in 2020. Thanks to the newly phased-in EU fleet average CO2 targets, European volumes more than doubled last year. Chinese pure BEV only volumes remained nonetheless ahead.

German plug-in production PHEVs push production

Jan 2019 - Oct 2020 New Passenger Car EV Production Germany

Source: VDA EV = BEV, PHEV, FCEV



Germany to just fall short of 0.5m xEV production volume in 2020

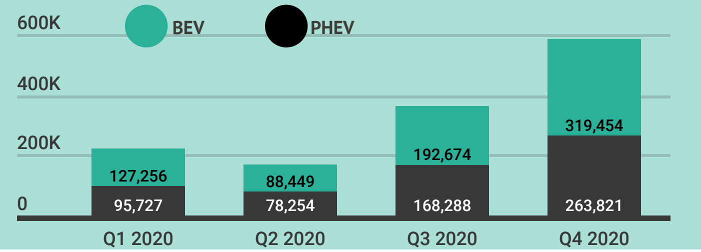
November was once again a record month for German plug-in passenger car production. Latest VDA data reveals 71,700 externally rechargeable passenger cars (of which 24,225 BEVs) were manufactured in November – the third-highest monthly mix (15.9%) of total production (record August 2020: 17.4%). 2021 will likely witness just under 1 million units, with **Tesla** added, and domestic manufacturers continuing to ramp-up in order to meet CO2 targets .

Last minute xEV compliance dash sees xEVs exceed 0.5m in Q4

Particularly late starting German OEMs, in a dash to reach phased-in EU CO2 fleet average compliance targets, pushed W-Europe's plug-in passenger car registrations (xEVs) far in excess of 0.5 million units in Q4. Combined Volkswagen Group, BMW Group and Daimler xEV volumes accounted for 49 per cent of West European xEV volumes in the final quarter of 2020, or 288 thousand units. Every fourth Volkswagen brand car registered in the region in December was a BEV and every fifth car from Daimler last year was a plug-in.

>0.5m xEVs registrations achieved during Q4 2020

Western Europe xEV New Car Registrations 2020. Schmidt Automotive Research



Chinese OEMs about to strike while the market is hot?

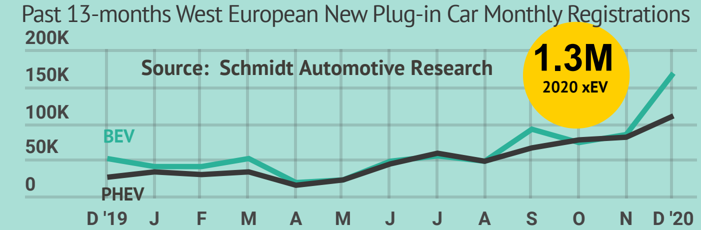
There was no Chinese OEM invasion in 2020, but Chinese manufactured BEVs belonging to **Chinese OEMs saw W-European volumes rise by 1290% y/y** to 23,800 units. Almost half arrived in Q4.

PHEVs premium fuelled rise continues

Premium brands dominate PHEV volumes. 58 per cent of all PHEVs registered across the region last year came from premium brands.

Bonus Malus/CO2 compliance/BiK witness PHEV's return

Past 13-months West European New Plug-in Car Monthly Registrations



Tab. 12/01: Western Europe Passenger Car Plug-in Registrations by Market Jan-Dec 2020

Source: Individual national trade associations, SAR

Market	BEV	BEV mix of national market	PHEV	PHEV mix of national market	Plug-ins	Plug-in mix of national market	BEV share of W-Eur total	PHEV share of W-Eur total	Plug-in share of W-Eur total	BEV Split of plug-in	PHEV split of plug-in	xEV weight
Germany	194,167	6.7%	200,465	6.9%	394,632	13.5%	26.7%	33.1%	29.6%	49.2%	50.8%	PHEV
France	110,920	6.7%	74,971	4.5%	185,891	11.3%	15.2%	12.4%	13.9%	59.7%	40.3%	BEV
UK	108,205	6.6%	66,877	4.1%	175,082	10.7%	14.9%	11.0%	13.1%	61.8%	38.2%	BEV
Norway	76,786	54.3%	28,904	20.4%	105,690	74.7%	10.5%	4.8%	7.9%	72.7%	27.3%	BEV
Sweden	27,923	9.6%	65,983	22.6%	93,906	32.2%	3.8%	10.9%	7.0%	29.7%	70.3%	PHEV
Netherlands	73,135	20.4%	13,489	3.8%	86,624	24.2%	10.0%	2.2%	6.5%	84.4%	15.6%	BEV
Italy	32,471	2.4%	27,328	2.0%	59,799	4.3%	4.5%	4.5%	4.5%	54.3%	45.7%	BEV
Belgium	14,985	3.5%	31,133	7.2%	46,118	10.7%	2.1%	5.1%	3.5%	32.5%	67.5%	PHEV
Spain	17,925	2.1%	23,306	2.7%	41,231	4.8%	2.5%	3.8%	3.1%	43.5%	56.5%	PHEV
Switzerland	19,504	8.2%	14,540	6.1%	34,044	14.4%	2.7%	2.4%	2.6%	57.3%	42.7%	BEV
Denmark	14,239	7.2%	18,242	9.2%	32,481	16.4%	2.0%	3.0%	2.4%	43.8%	56.2%	PHEV
Austria	15,972	6.4%	7,641	3.1%	23,613	9.5%	2.2%	1.3%	1.8%	67.6%	32.4%	BEV
Portugal	7,916	5.4%	11,864	8.2%	19,780	13.6%	1.1%	2.0%	1.5%	40.0%	60.0%	PHEV
Finland	4,245	4.4%	13,231	13.7%	17,476	18.1%	0.6%	2.2%	1.3%	24.3%	75.7%	PHEV
Eire	4,026	4.6%	2,492	2.8%	6,518	7.4%	0.6%	0.4%	0.5%	61.8%	38.2%	BEV
Luxembourg	2,473	5.5%	2,685	5.9%	5,158	11.4%	0.3%	0.4%	0.4%	47.9%	52.1%	PHEV
Iceland	2,356	25.1%	1,859	19.8%	4,215	45.0%	0.3%	0.3%	0.3%	55.9%	44.1%	BEV
Greece	679	0.8%	1,456	1.8%	2,135	2.6%	0.1%	0.2%	0.2%	31.8%	68.2%	PHEV
W.Europe	727,927	6.7%	606,466	5.6%	1,334,393	12.4%	100.0%	100.0%	100.0%	54.6%	45.4%	BEV

Fig. 12/02: Top 4 Markets Quarterly BEV Registrations y/y Changes (%)

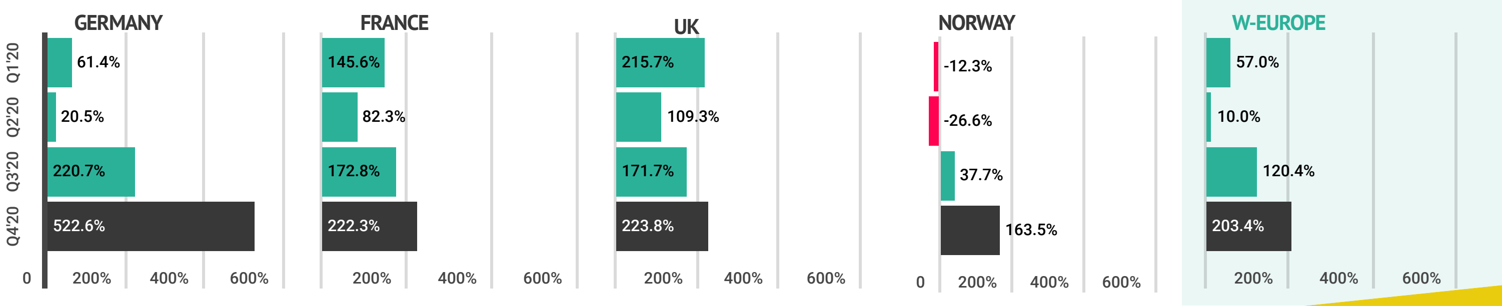


Fig. 12/03: W-Europe Total-Plug-In Registrations by Market Jan-Dec 2020

Source: Individual national trade associations, Schmidt Automotive Research