

Q3/2023

Includes
BEV forecast
to 2030

European Electric Car Monthly Market Intelligence

Edition 2023:09 | *Delivering direction behind Western Europe's plug-in new car market*

BEV brakes applied as growth trajectory skids to a halt

Covers Western Europe's 18 Markets: EU Member States prior to the 2004 enlargement, plus EFTA markets Norway, Switzerland, Iceland, plus UK – accounting for over 95% of the enlarged European region's BEV total volumes
In this report: BEV = Battery Electric Vehicles, PHEV = Plug-in Hybrids, PEV/NEV/ZEV = BEV+PHEV (plug-in EV)

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Executive Summary September/Q3 2023

- **12-month trailing BEV penetration growth came to a halt in the 12-month period up to September at 17.3% and is expected to begin a decent in the closing quarter of the year** as Europe's largest passenger car market Germany, suffers from the consequence of a pull-forward in BEV registrations into August from corporate drivers that saw purchase subsidies removed from September. Other markets such as Norway and Sweden, which saw sales brought forward into 2022 to benefit from low acquisition taxes before a rise in 2023 and benefitting from remaining purchase subsidies in both markets, respectively, have seen a positive delivery lag into 2023, with the last remaining of those deliveries taken from the order bank being delivered within the remainder of the year expected to slow dramatically, especially against high volumes in the previous year. Germany and Norway saw BEV new passenger car registrations fall by -28.6% and -20.9%, respectively, in September, bringing the regional average gain to just 13.5% over the same month last year. That was the weakest year-on-year growth rate since the opening month of the year (January 2023 +11.9%/y/y).

- **Chinese OEMs accounted for almost every tenth new BEV across the region during the third quarter.** However, with RoRo shipping vessels from China to Europe close to capacity, according to two different OEMs, further expansion will likely be limited for now. Some Western brands are using, or blocking, some of that capacity with Sino-made models exported to Europe, such as BMW, Renault Group and Tesla. Media reports suggest BYD will break ground on a Hungarian facility in 2024, which will avoid logistics headwinds, transport costs, and EU tariffs – especially given the EU investigation into Chinese-made BEVs is underway, which could result in higher tariffs being applied. In October, Volvo Cars announced its decision to shift EX30 production from China to Belgium for the European market launch although it said this decision was taken before the EU investigation was announced, although it adds flexibility whatever the outcome.

- **China's MG4 was the second most registered BEV model across the region during September,** benefitting from the registration changeover positive effects in its ancestral UK home, which was the largest regional BEV car market last month. The UK soaked up every fourth West European new BEV passenger car registration. SAIC's MG brand, which manufactures all European models exclusively in China, is also expected to open a European production site given its regional volumes across all drivetrains reached 156,500 so far this year, of which 77,900 were BEV models, making it the number two volume BEV brand across the region after Volkswagen-brand. The MG4 (48,900) accounted for 63% of those MG BEV models, or almost two in three, helping the model become the most-registered C-Segment BEV vehicle in Q3, ahead of Volkswagen's ID.3, which is currently only available in higher "Pro" trim level variants starting at €39,995 for the 58kWh battery version, while the MG begins at €32,313 fitted with a 51kWh battery. This would suggest Volkswagen are not keen to chase low-margin BEV volume at this point.

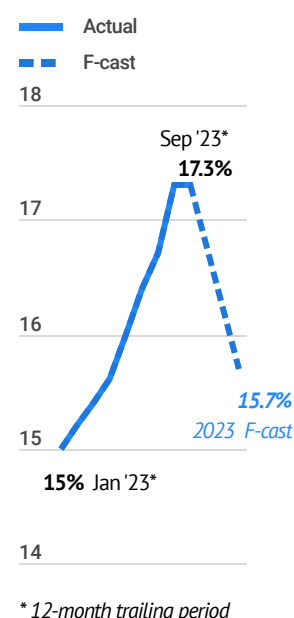
- **Tesla, which is a healthy indicator of market health given its short delivery times, saw third-quarter volumes across the region dip almost 10,000 units below the opening quarter of the year, suggesting momentum is easing despite the US company offering significant price reductions** since the start of the year. Tesla's share of the regional BEV market fell back to 15.9% during the third quarter, from 21.8% during the opening three months of the year, where the Musk-led company benefitted from the inventory gap left by traditional manufacturers, following a strong end of 2022 volume push as well as being the first quarter of heavy discounting.

The European electric car market has flattered during 2023, but reality could be about to bite

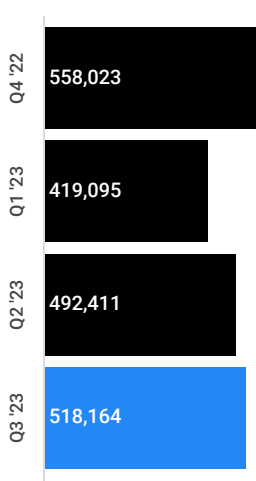
Travelling back from the Volvo EX30 media test event earlier this month, a delayed flight caused many to fret and panic while others remained calm, safe in the knowledge that they would arrive at their destination, be it slightly late. That is the situation the Western European market finds itself in, with one-quarter of the year remaining. Although the long-term trajectory of the West European car market is set to continue upwards, with cross-border EU (and UK) legislation guaranteeing thrust, there will be periods of turbulence and headwinds on that journey, with the remaining three months of the year likely to demonstrate that.

While the 12-month rolling BEV new passenger car registrations across Western Europe narrowly failed to hit 2 million units between October 2022 - and September 2023 (FY 2022: 1.53mn), ahead of forecasts and recording an all-time high share mix of 17.3% (FY 2022: 15.1%) – a weakening market outlook from manufacturers such as Volkswagen, Mercedes and even global BEV market leader Tesla, alongside key battery suppliers such as LG Energy Solutions (LGES) lies ahead. During the Q3 result call, the Korean company said "EV demand next year could be lower than expectations." Meanwhile, during the same call, LGES confirmed they have signed one of their biggest deals outside of its joint ventures with Toyota. The deal, which will stretch over 10 years, came as Toyota rolled back its global volume BEV outlook for fiscal year 2023/24 from an expected BEV volume of 202,000 sales to just 123,000 in the 12 months to April 2024. All saw macroeconomic headwinds as reasons for this gloomy picture. Toyota also mentioned global shipping capacity headwinds, or a "severe shortage of ocean vessels", as finished products are unable to leave ports while shipbuilding decreased due to the COVID pandemic. On the fringes of the EX30 event, a Volvo employee said that the decision to manufacture the impressive model for Europe in Europe (vs. imports from China) was taken to be close to the market which it expects to be one of the largest takers of the new small B/C segment crossover as well as avoiding heavy shipping constraints which it is witnessing. It comes with a 15-20% gross margin, according to their charismatic Scottish CEO, Jim Rowan,

Reality bites?
W-European 12-month trailing BEV mix of the new passenger car market (%)



West European new BEV car registrations
Last 4 quarters



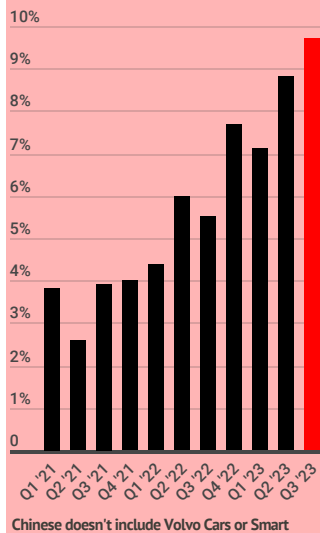
Source: KBA/SA Research



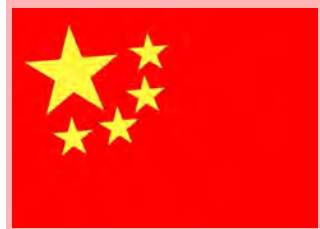
The Swedish company, which China's Geely majority owns, confirmed the decision was made before the EU investigation into an anti-subsidy inquiry into low-cost electric cars coming from China was made. The baby Volvo will also be made in China, and confirmed it wouldn't understandably be made in the US, a market which has traditionally strayed away from smaller models. However, it will be imported there as it can benefit from the so-called Duty Drawback system that allows it to claim a reduction on import tariffs for every US-manufactured vehicle it exports, suddenly making business sense to import the EX30. Thanks to the SEA (EV architecture) underpinnings the Volvo sits upon, it can leverage the might and scale of the Geely developed platform, helping those expected gross margins. Volvo and BMW were two notable exceptions to a principally bearish outlook for the BEV market during Q3 results season. The Zeekr X on the same SEA 2 platform as the Volvo will launch in Europe at the end of 2023 – limited initially to Sweden and The Netherlands – alongside the larger Zeekr 001, based on Geely's SEA 1 platform in a similar strategy to Volkswagen Group with the MEB and PPE platforms. Both launch markets witnessed BEV penetrations of 30-40% this year. Zeekr appears to be targeting a slightly more premium demographic than Volvo in what seems to be a new type of Lexus (the European CEO is a former Lexus executive). So far this year, Lexus registered 33,021 units across Western Europe (0.4% market share), while volumes peaked in 2019 at just below 50,000, having entered the region in 1990.

Meanwhile, back to the current state of play of the W-European BEV market; during the 12-month rolling period to September 2023, the BEV penetration of the regional market came to a halt at 17.3%, unchanged on the 12 months recorded just a month earlier. With thick order books from 2022, which benefitted from added momentum as consumers scrambled to showrooms to purchase/lease/finance a BEV before subsidies were either eradicated (Sweden), reduced (Germany) or saw acquisition taxes raised (Norway) those deliveries filtered into 2023 – apart from Germany which requires the vehicle to be physically registered by a certain date to claim the benefits as was witnessed last month when corporate purchase subsidies were removed creating a boom in August (+170.7% y/y) and bust in September (-28.6 y/y). Private German consumers accounted for 55% of the new BEV market in September and just 25% a month earlier. However, while clouds loom, one unlikely bright spark for getting beyond corporate and early adopters: Diesel! Back in 2015, as dieselgate broke, they accounted for 51.5% of the total new car market or 6.83 million new registrations across the region. Eight years later, those consumers who likely purchased one privately in part on environmental/CO2 saving grounds will begin to look for something to replace them with, and in Germany alone, that's currently over 14 million motorists (parc/population). While diesels came at a premium price, are those same motorists ready to pay the premium for a BEV? ■

Almost 1-in-10 BEVs in W-Eur Sino
Chinese OEM quarterly share of the W-Eur new BEV market



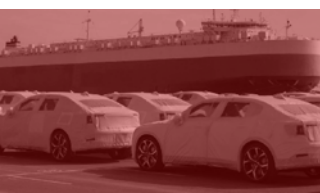
Chinese doesn't include Volvo Cars or Smart



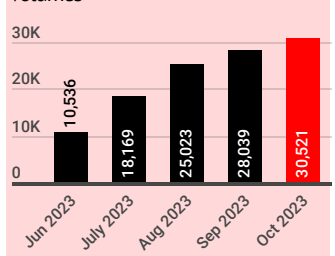
Source: Schmidt Automotive Research

Sino-branded models approach one-in-ten new BEVs in W-Europe

Almost every tenth new BEV registered on West European roads during the third quarter of 2023 came from a Chinese brand shipped from the Asian market. Over 50,000 new Chinese pure electric models were newly registered between July and September 2023 (Q3) across the region, creating both a new volume high and a new quarterly market penetration record. Half of those volumes came from SAIC, via its MG-brand, while a further 13% came from BYD, which is now beginning its European market offensive in earnest, present in all W-European markets apart from Switzerland. An additional 21% came from Polestar, with the remaining 16% split between the likes of Great Wall Motors ORA brand, NIO, Aiyaws, DongFeng (Seres), XPeng and FAW (Hongqi). Meanwhile, in September, XPENG's global volumes surpassed NIO's. An EU's anti-subsidy investigation against electric car models made in China is currently underway.



BYD export growth locomotive slows
BYD cars Chinese monthly export volumes



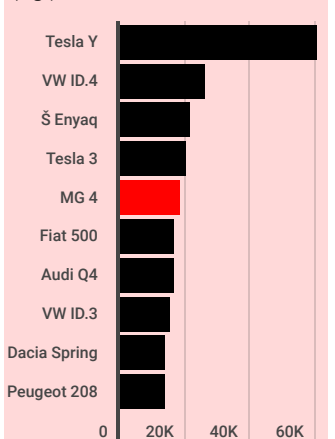
Source: Schmidt Automotive Research / OEM

BYD increased its exports out of China in October to 30,521 units. However, just 1,716 were delivered in Western Europe during September, which was down on the previous month, which saw a volume of 2,848. With shipping capacity said to be saturated for now, BYD's route from China to Europe appears trickier than first expected. A report in Germany's FAZ newspaper reported that the Chinese giant had finalised a **European production location in Hungary**; although the company hasn't confirmed this, but have said they will make an announcement by the end of the year. A supplier speaking on anonymity and with knowledge of the situation confirmed to this report that the deal has been made. **Designed in China, made in Europe!**

Chinese-made MG 4 model outpaced same sector ID.3 in Q3

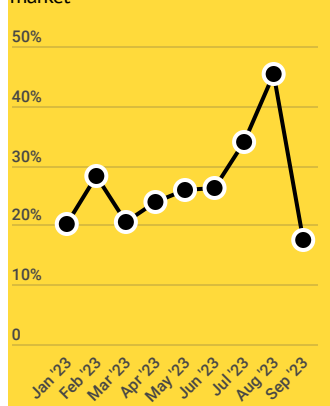
SAIC's MG 4 model outpaced the Volkswagen ID.3 in Q3 to become the fifth most registered model in the quarter. Three of the top 5 models were totally or partly made in China.

Chinese model become a top 10 BEV
W-European top BEV models (regs) Q3 2023



Source: Schmidt Automotive

Germany's BEV party is over, for now
German monthly share of W-Eur BEV market



Source: Schmidt Automotive Research / KBA

As expected, following the pull-forward from corporate and fleet BEV registrations into August to benefit from the last remaining purchase subsidies on offer, and consequently accounting for almost half of the regions new pure electric models last month (August), the market toppled back to earth in September. New BEV registrations fell by -28.6% y/y to 31,714 units during September, accounting for its lowest monthly share of the West European market (17.3%) since June 2020 (16.6%), or in over three years. The market is expected to continue to see low or negative growth during the final months of the year compared to strong volumes last year as consumers rushed to claim the final remaining months of the highest purchase premiums, which topped out at €6,000 from the government and €3,000 from the OEM, or €9,000 combined.

The passing of Spring?

During Renault Group's Q3 results, CFO Thierry Piéton confirmed that they expect its Dacia Spring BEV model, manufactured in China, to lose its French state-backed purchase incentives on a subsidy criteria change targeting Chinese-made models on logistics grounds. 58% of W-European Springs' ended up in France this year. Dacia appears to be pushing the Spring, for now, seeing strong volumes before a potential double hit – the EU investigation into Chinese BEVs. The budget model is available to lease for €99 in Germany following government subsidies and just €79 in France. An updated Spring arrives Q2 2024.

BEV population set to reach over 40 million by 2031 or 17% of total cars

According to a new forecast carried out by this report, the BEV units in operation (Parc) across Western Europe is set to reach over 40 million units by 2031. That would equate to 17 per cent of the total vehicles on the road during the same time frame. Up to October 1, 2023, 5.6 million BEVs are currently in operation across the 18 market West European region, which translates to a 2.3% share of all new cars on the road (see page 21). Norway leads with a BEV parc mix of 24% while Greece trails with just 0.2% penetration. Germany has set itself a target of registering 15 million pure electric cars by 2030, although this forecast believes Europe's largest passenger car market and largest BEV market, in volume terms, could fall 5 million units short of that target. Up to October 1, 2023, 1.3 million BEV units are currently in operation on German roads, according to estimates by this study. Meanwhile, latest official KBA data identifies 1,170,632 were in operation up to July 1, 2023, although 1,414,362 had been newly registered there since 2012, identifying that almost one-quarter of a million BEV vehicles had left German roads once again after first being registered there. That includes a small scrappage rate of vehicles, largely from pre-series test vehicles from German manufacturers that must be scrapped following their test cycles, but it appears a large number of models have been exported to other markets after having received generous government subsidies and having been registered on German roads for the minimum stated period. Denmark saw 169,000 BEVs registered on its roads up to October, despite fewer than 130,000 having ever been registered there for the first time resulting in a net credit of almost 40,000, that were likely imported as young-used imports from Germany. This was likely to avoid some of the highest taxes for registering new cars across Europe and also a race to get hands on a BEV while BEV fiscal advantages are diluted each year. ■

Tab. 23.09/01: Western Europe Passenger Car Plug-in Registrations by Market Sep YTD 2023

Source: Individual national trade associations, SAR research

Market	BEV	y/y change	BEV mix of national market	PHEV	y/y change	PHEV mix of national market	PEV Plug-ins	PEV mix of national market	BEV share of W-Eur total	PHEV share of W-Eur total	PEV share of W-Eur total	BEV Split of plug-in	PHEV split of plug-in	xEV weight
Germany	387,289	42.1%	18.1%	123,345	-42.8%	5.8%	510,634	23.9%	27.2%	17.5%	24.0%	75.8%	24.2%	BEV
UK	238,541	35.8%	16.4%	98,993	33.8%	6.8%	337,534	23.2%	16.8%	14.1%	15.9%	70.7%	29.3%	BEV
France	205,066	45.6%	15.9%	116,222	30.6%	9.0%	321,288	24.9%	14.4%	16.5%	15.1%	63.8%	36.2%	BEV
Belgium	71,045	175.0%	19.0%	81,307	88.5%	21.7%	152,352	40.6%	5.0%	11.6%	7.2%	46.6%	53.4%	PHEV
Sweden	81,218	40.0%	38.7%	42,903	-9.2%	20.4%	124,121	59.1%	5.7%	6.1%	5.8%	65.4%	34.6%	BEV
Netherlands	84,703	83.0%	29.5%	38,666	47.2%	13.5%	123,369	43.0%	6.0%	5.5%	5.8%	68.7%	31.3%	BEV
Italy	40,184	11.3%	3.4%	54,049	9.3%	4.6%	94,233	8.0%	2.8%	7.7%	4.4%	42.6%	57.4%	PHEV
Norway	79,670	-0.2%	83.4%	6,665	-35.0%	7.0%	86,335	90.4%	5.6%	0.9%	4.1%	92.3%	7.7%	BEV
Spain	34,600	64.1%	4.9%	45,113	31.3%	6.3%	79,713	11.2%	2.4%	6.4%	3.7%	43.4%	56.6%	PHEV
Denmark	40,829	108.8%	32.9%	12,870	-32.1%	10.4%	53,699	43.3%	2.9%	1.8%	2.5%	76.0%	24.0%	BEV
Switzerland	36,235	36.9%	19.8%	15,956	16.7%	8.7%	52,191	28.5%	2.5%	2.3%	2.5%	69.4%	30.6%	BEV
Austria	34,894	44.8%	19.1%	13,085	38.6%	7.2%	47,979	26.2%	2.5%	1.9%	2.3%	72.7%	27.3%	BEV
Portugal	25,637	110.3%	16.7%	19,360	71.6%	12.6%	44,997	29.3%	1.8%	2.8%	2.1%	57.0%	43.0%	BEV
Finland	22,815	131.3%	33.3%	13,649	10.2%	19.9%	36,464	53.2%	1.6%	1.9%	1.7%	62.6%	37.4%	BEV
Eire	21,716	49.6%	18.3%	9,988	33.0%	8.4%	31,704	26.8%	1.5%	1.4%	1.5%	68.5%	31.5%	BEV
Luxembourg	8,312	81.1%	21.9%	3,687	26.1%	9.7%	11,999	31.6%	0.6%	0.5%	0.6%	69.3%	30.7%	BEV
Greece	4,943	148.0%	4.7%	6,041	54.1%	5.8%	10,984	10.5%	0.3%	0.9%	0.5%	45.0%	55.0%	PHEV
Iceland	5,815	55.2%	42.0%	1,506	-53.7%	10.9%	7,321	52.9%	0.4%	0.2%	0.3%	79.4%	20.6%	BEV
W.Europe	1,423,512	46.3%	16.3%	703,405	4.6%	8.1%	2,126,917	24.4%	100.0%	100.0%	100.0%	66.9%	33.1%	BEV

Sweden has now become the leading Nordic market ahead of Norway when looking at BEV volumes, as the previous darling of the electric car world, which is now essentially a mature market with little more room for growth with an 83.4% BEV mix, with a total ICE phase-out taking place in 2025. However in total plug-in (BEV/PHEV) volume terms, Germany continues to dominate the region with over 0.5 million plug-ins registered this year, accounting for 23.9% mix of its national new volume deliveries while at the same time contributing to every fourth new plug-in entering the 18 market region during the opening nine months of this year. Regarding major volume markets, France is the nation leading the way with 24.9% of its national new passenger car deliveries attributed to either a PHEV or a pure electric BEV model.

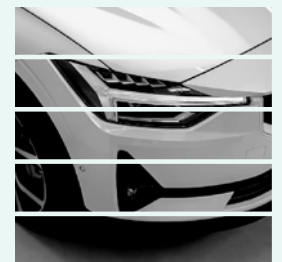


Fig. 23.09/08a: W-Europe Total-Plug-In Registrations by Market Sep YTD 2023

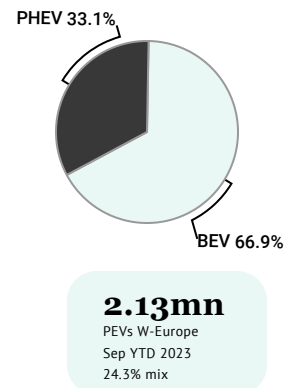
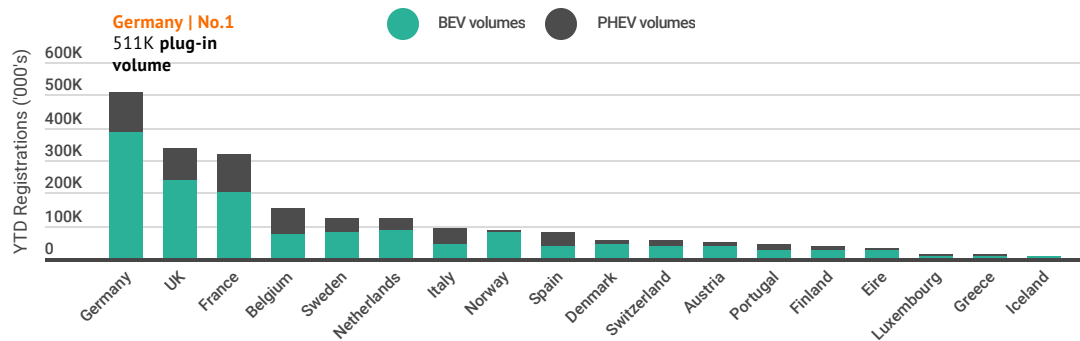


Fig. 23.09/07: Top 4 Markets on an annual basis Quarterly BEV Registrations y/y Changes (%)

