

Electric Vehicle Sales Review Q3 2023



Foresight to drive the industry

October 2023



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Executive summary

China slowdown hinders global BEV growth

BEV sales in all twenty analyzed markets increased by 26% in the third quarter of 2023 in comparison with the same period last year. But if it were not for waning growth in the Chinese market, that figure would be considerably higher.

That is because China heavily dominates the global BEV market. Indeed, Chinese BEV sales accounted for two thirds of sales in all analyzed markets in the third quarter of 2023. Growth in BEV sales in China was 16% in Q3 2023 vs. Q3 2022. Growth in BEV sales for the same period for all other 19 analyzed markets outside China was 49%.

BEV sales growth in China has been slowing for several months, in large part due to a weakening economic outlook, and is now significantly lower than just two years ago. In 2021, BEV sales growth there reached 172%. However, it should also be noted that BEV sales growth in China between Q3 2022 and Q3 2023 was still comfortably higher than the overall growth of total powertrain sales in the country in that period (16% vs. 6%).

Indeed, BEV sales growth was higher than total powertrain sales growth in the period in question in all analyzed markets, with only one exception – South Korea. Some of the recorded gaps between BEV sales growth and overall powertrain sales growth were very substantial – for example, 62% vs. 17% in the USA, and 59% vs. 18% in Germany. Market trends suggest that this strong BEV sales performance will continue, with projected growth of 35% in all analyzed markets in 2024.

PHEV sales, on the other hand, reflect a more nuanced picture. Although only Italy, Spain, Japan and Brazil sold more PHEVs than BEVs in the third quarter, the QoY growth of PHEV sales was higher than for BEV sales in several countries, including China, USA, France, UK and Austria. In Germany, however, PHEV sales fell by 42% in Q3 2023 vs. Q3 2022.



BEV growth slows markedly in China, but maintains pace in other analyzed markets

49% vs. 16%

BEV QoY sales growth in all other 19 analyzed markets outside China vs. BEV QoY sales growth in China



1. News and highlights

Chinese OEM presence grows as European BEV market moves more mainstream

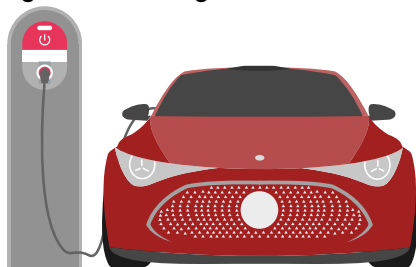
IAA show confirms emerging market trends

The IAA Mobility 2023, the largest auto show in Europe, was held this September in Munich. The event, which attracted 500,000 visitors, highlighted two major trends in the EV market: **Chinese OEMs are gaining more prominence, and the EV market is moving from a focus on high-end luxury towards mainstream.**

Out of 22 major OEMs displaying their models, seven were from China. The event therefore reflects an intensifying competition between China and Europe, as European OEMs strive to introduce lower-cost BEVs and follow the lead set by the Chinese OEMs, which have specialized in more affordable models.¹

New Chinese models drawing attention included two from the manufacturing giant BYD: the Seal, a mid-size sedan, and the Seal U, a mid-size SUV. And another from the start-up Leapmotor: the C10, a mid-size SUV.²

European OEMs also displayed their newest developments. Mercedes-Benz revealed the CLA concept, an entry-level BEV sedan with a significant 750 kilometer range, which will go on sale at the end of 2024.³



Meanwhile, BMW revealed the Neue Klasse concept. The company plans to roll out six models within 24 months based on this new BEV-dedicated platform that is set to launch mid-decade.⁴

Microcar manufacturers join forces to push case

A group of European manufacturers of L7e (heavy quadricycle) microcars have formed an alliance in their bid to create an alternative to traditional passenger cars. The founding members of the “Microcars Coalition” include Microlino, City Transformer and Circle Mobility. **The coalition is seeking to raise awareness of microcars and their advantages in cities, and lobby for tax and subsidy policies that encourage people to switch to microcars.** The coalition also aims to work with urban authorities to create special exemptions and benefits for microcars in city traffic and car parks.⁵

Battery recycling market gathers pace

An August 2023 [joint study by PwC Strategy& and RWTH Aachen University](#) has suggested that the European battery recycling market will be viable and sustainable by 2035. Various factors are accelerating this development – the rapid electrification of the car market, lower costs resulting from improved technology, a regulatory push from governments, and massive investments from OEMs and others.⁶ One example of this investment is The Future is Neutral, a company created by the Renault Group, which aims to lead the industry in closed-loop battery recycling.⁷

The Inflation Reduction Act (IRA) in the United States, which stipulates that BEVs made with US-recycled battery materials should be eligible for the IRA’s purchase incentives, has further led to a boom in BEV battery recycling in the country, helping the region to challenge China’s dominance in that field.⁸

Batteries benefit from technological innovation

Technological progress in battery development feeds off the expansion of the BEV market, as OEMs compete to upgrade their products and attract the growing number of BEV consumers. Improved battery technology inevitably leads in turn to further BEV adoption and market expansion. Several announcements on this front have hit the headlines in recent months.

Chinese automotive battery manufacturer, CATL, has announced its Shenxing battery that delivers a range of 400 kilometers after just 10 minutes of charging. The lithium iron phosphate (LFP) battery contains modified electrode materials and an electrolyte mix that accelerate charging while maintaining safety and ensuring resistance against the cold.⁹

Toyota has unveiled a breakthrough in its solid-state battery technology, which promises to halve the size, cost and weight of batteries for its electric vehicles. The company said it had developed ways to manufacture a solid-state battery with a range of 1,200 kilometers that could charge in a maximum of 10 minutes. Toyota expects to make solid-state batteries available for commercial use by 2027.¹⁰



1. News and highlights

OEMs declare BEVs to be on the cusp of profitability

BEVs approach breakeven point

In recent months, several major legacy OEMs have publicized their views on when BEVs would become profitable. Their opinions have differed, but they all agreed that **BEV profitability is, at worst, just around the corner, facilitated by increased investment and economies of scale.**

GM believes that its BEVs will become profitable from 2025, thanks in large part to its Ultium platform with a flexible battery architecture and stated ability to increase power, driving range and performance.¹ Volkswagen made a similar forecast, stating that the company will be able to build some BEVs at the same profit margins as ICE models by 2025.²

BMW declared that the company already makes just as much profit from the sale of electric vehicles as they do from ICE models, and such profits would increase with the advent of the Neue Klasse generation of BEVs. Although the company admitted that BEVs were more expensive to produce, these costs are offset by higher prices.³

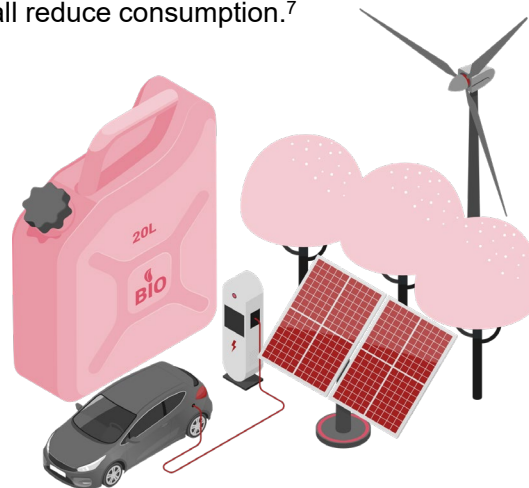
However, Mercedes-Benz struck a more cautious note, emphasizing that their variable costs for producing BEVs would remain higher than for ICE models for the foreseeable future. These variable costs include raw materials for batteries, software development, and electricity prices. The company is therefore working to optimize fixed costs and resource allocation to achieve similar profitability with BEVs as for ICEs.⁴

Oil demand reaching a peak in China and beyond

In a further sign that the world is moving away from ICE vehicles and towards EVs, it is becoming clear that global demand for oil is slowing.

Sinopec, the Chinese oil and gas conglomerate, has said that it now expects gasoline demand to peak in China in 2023, two years earlier than it previously predicted. It attributes the end of growth to the surging demand for BEVs in the country.⁵

The trend is not unique to China. According to the International Energy Agency, global oil demand will trickle to a halt over the coming years,⁶ while oil use for transport will go into decline after 2026 as the popularity of electric vehicles, the growth of biofuels and improving fuel economy all reduce consumption.⁷



Trade war concerns as stakes are raised

With much of the world beset by falling economic growth, the rapid expansion of the BEV market offers some respite from the overarching narrative.

As a result, it is not just OEMs that are latching on to the potential of BEVs, but governments too. And just as companies want to fend off competition in their pursuit of BEV sales growth, so do countries. **Authorities in Europe, China and beyond are therefore seeking subtle ways to limit the success of foreign OEMs in their markets.**

France has published new eligibility rules for BEV purchase incentives, tied to environmentally friendly production, that may exclude vehicles made in China. Among other criteria, models will be scored against government-set thresholds on the energy used to make their constituent materials. As the Chinese industry relies heavily on coal-generated electricity, its vehicles are likely to miss out on the incentive.⁸

Meanwhile, the European Union has launched an investigation into whether to impose punitive tariffs against imported Chinese BEVs, whose prices are arguably kept artificially low by state subsidies.⁹ This move would clearly protect EU producers.

In a possible retort, China is considering the introduction of CO₂ limits for all vehicles. Every BEV also emits CO₂, but this is due to electricity generation at the power plant rather than from the exhaust. German BEVs tend to be in bigger vehicle segments and would be particularly affected by any such limit.¹⁰



2. Analyst insights

Largest European markets to lead the BEV charge in 2024

Current market trends point to a 35% increase in BEV sales for 2024 in the twenty analyzed markets. However, beneath this headline figure lies a nuanced picture in each particular region, and for each OEM.

Europe

The top 5 European markets (Germany, France, UK, Italy and Spain) are set to enjoy BEV sales growth of 43% in 2024. However, there is very much a divide between the Northern and Southern European countries. Germany, the UK and France are all hovering the inflection point, around 16% BEV market share, widely considered at which mainstream consumers give serious consideration to a BEV purchase. We therefore believe that BEV sales will gain further steam in these markets during 2024.

The picture in Spain and Italy is less rosy. The market share still labors in single digits, bringing down the overall average of the European top 5. This does not alter the longer-term prognosis, however. Given the growing parity in the total cost of ownership between BEV and ICE vehicles, and planned EU and UK rules on the purchase of zero-emission cars, there is a clear path towards 100% BEV sales throughout the entire region by 2035.

China

China will remain by some distance the largest single BEV market in the world in 2024, although a weakening economic outlook is set to limit BEV sales growth to a still healthy 34%.

Domestic manufacturers are getting stronger and will have a market share of more than 50% in China for the first time as of 2023.¹

Intensifying competition means that several local and foreign OEMs will fall by the wayside. In addition, there are some concerns that a trade war might develop between China and Europe, resulting in government measures that could stymie the growth of foreign OEMs in the Chinese market.

USA

We estimate that the US BEV market will grow by 27% in 2024. There is still some ambiguity about the repercussions of the tax credit for new EV purchases to be introduced in 2024, which excludes cars with battery components from any source the US regards as a “foreign entity of concern”. Individual OEMs will face the commercial consequences if their vehicles are deemed not to qualify.

BEVs	Sales 2024	Market Share 2024	YoY Growth
Europe Top 5	1,846,000	18.1%	42.6%
China	6,865,000	27.7%	33.9%
USA	1,462,000	9.8%	27.4%

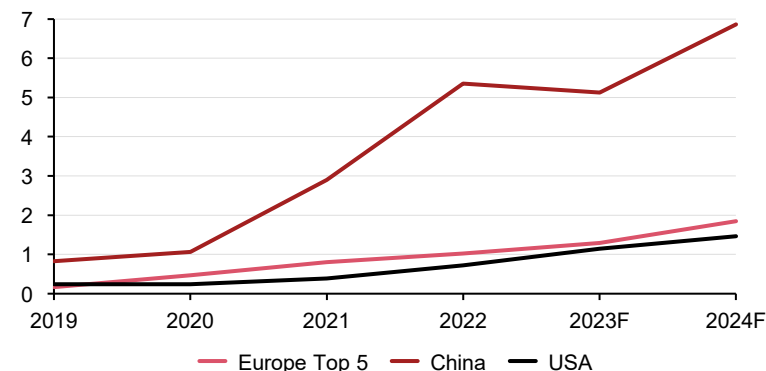
OEMs

German OEMs are set to enjoy a global increase of 40% in BEV sales in 2024. The significant growth is also due to the fact that German OEMs are entering 2024 with an overall lower BEV share unlike Chinese OEMs.

Established Chinese OEMs are forecasted to increase their BEV sales at a slightly faster rate than their new Chinese rivals (32% vs. 30%), as the latter are less known outside of their home country. Aside from a lack of global brand awareness, Chinese OEMs face other disadvantages and risks, such as the danger of spreading themselves too thinly and protectionist measures from importing countries.

In both cases, the strong gains from BEV sales in 2024 are due to higher overall sales compared to 2023 and to the cannibalization of ICE sales by BEVs.

BEV sales in million units (2019 – 2024F)


















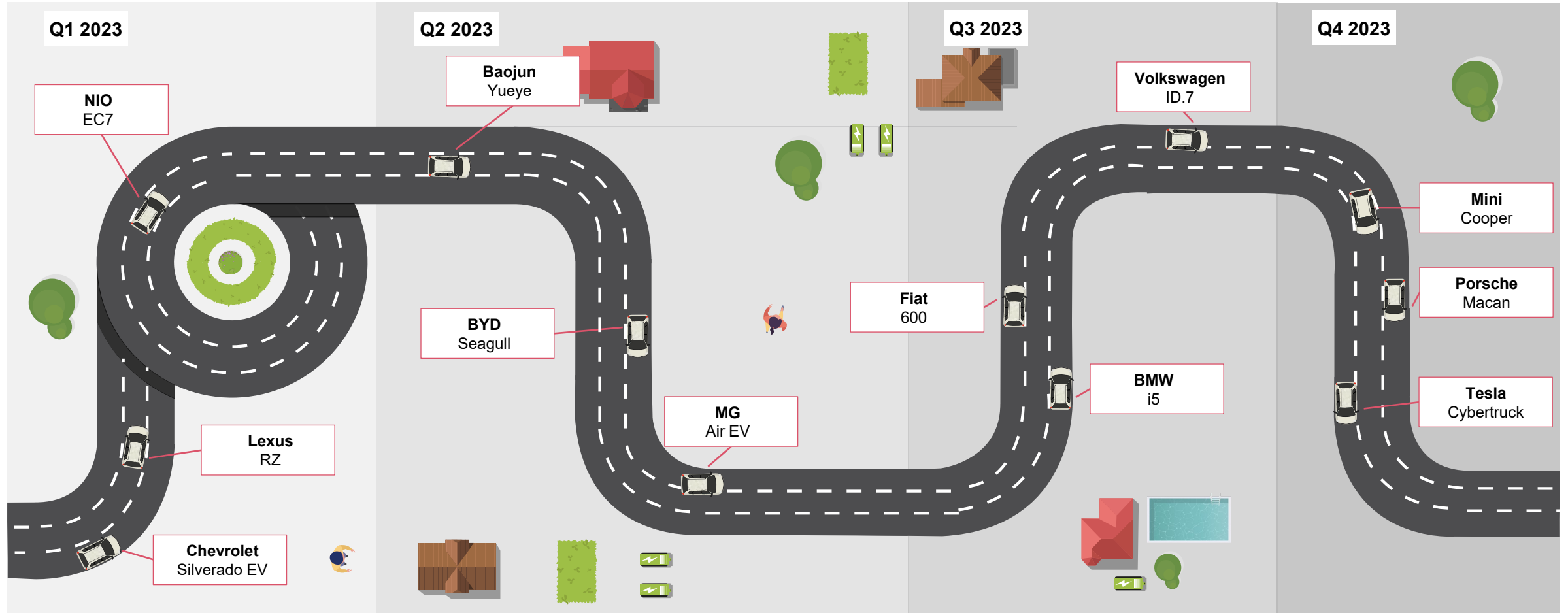
2. Analyst insights

Tesla Model Y continues to dominate key markets

Top BEV models in Q1-Q3 2023

European Top 4 		USA 		China 	
Model	Sales Jan-Sep '23	Model	Sales Jan-Sep '23	Model	Sales Jan-Sep '23
 Tesla Model Y	78,014	Tesla Model Y	296,059	Tesla Model Y	320,109
 Fiat 500e	38,746	Tesla Model 3	166,042	BYD Dolphin	221,579
 Volkswagen ID.4, ID.5	34,790	Chevrolet Bolt EV/EUV	49,494	BYD Yuan Plus	217,670
 Dacia Spring	32,844	Ford Mustang Mach-E	28,882	Aion S	182,230
 Tesla Model 3	31,054	Volkswagen ID.4	27,155	Wuling Hongguang Mini EV	169,526
 Peugeot E-208	26,286	Hyundai IONIQ 5	25,306	Aion Y	163,552
 MG 4	24,880	Tesla Model X	18,174	BYD Seagull	119,828
 Volkswagen ID.3	23,279	BMW i4	17,181	Tesla Model 3	113,620
 Renault Megane Electric	19,660	Rivian R1S	16,540	Wuling Bingo	92,538
 Skoda Enyaq	17,597	Kia EV6	14,798	Changan Lumin	92,080

New BEV launches drive market growth



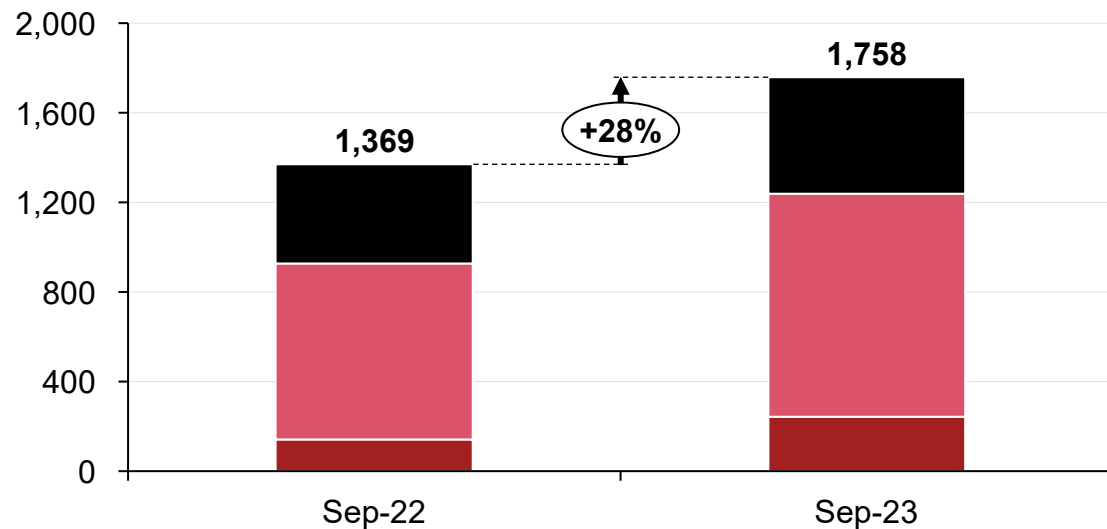


3. Electric vehicle sales data

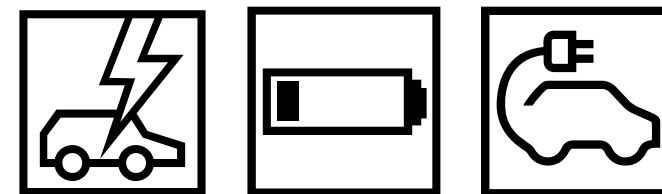
EV sales growth continues

Key Markets

Sep '22 vs. Sep '23 (in '000 units)

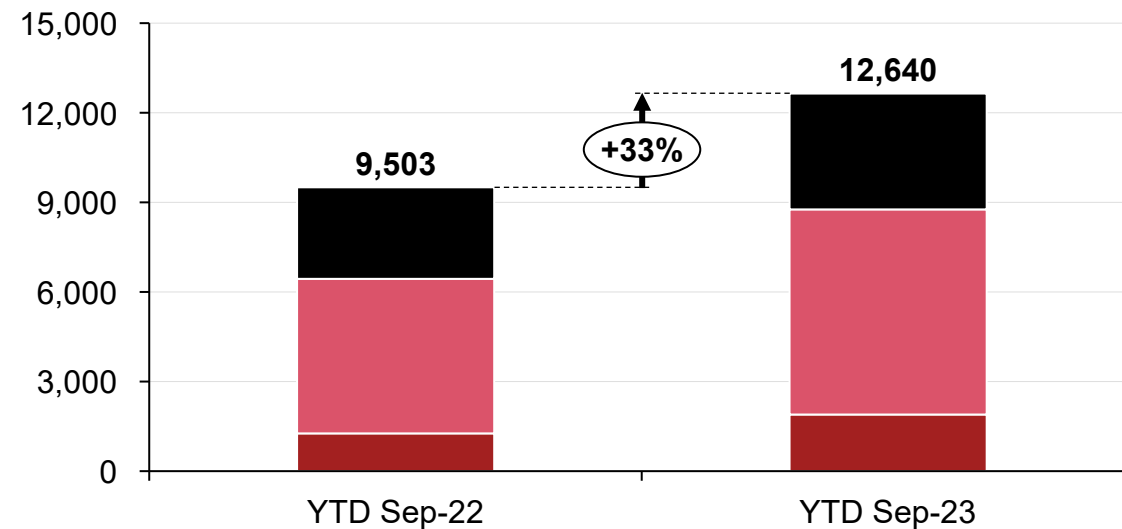


■ WE 5+5 ■ China ■ USA



Electric Vehicles (EVs*)

YTD Sep '22 vs. YTD Sep '23 (in '000 units)



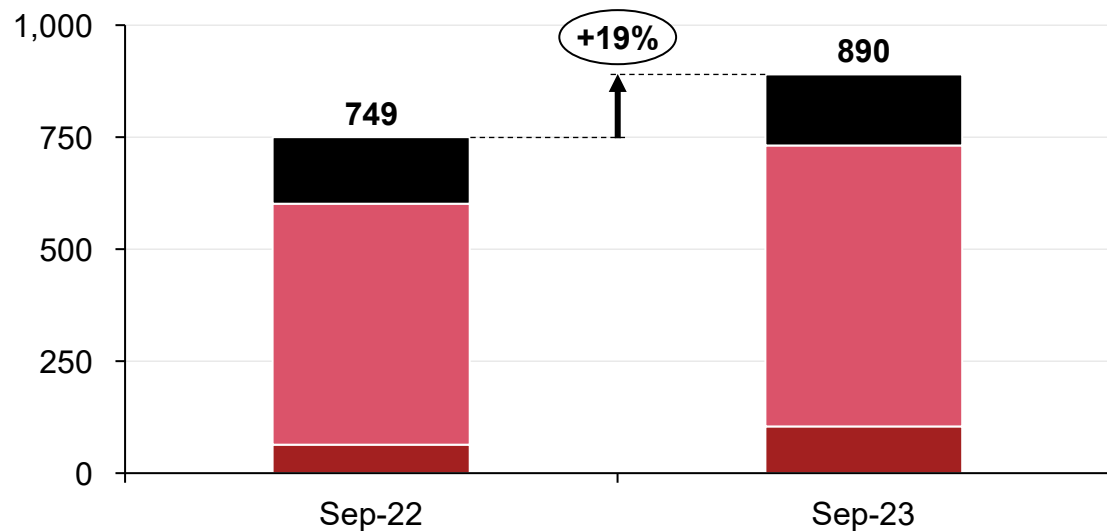


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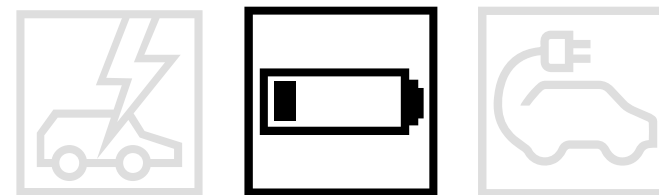
BEV sales surged in WE 5+5 and China

Key Markets

Sep '22 vs. Sep '23 (in '000 units)

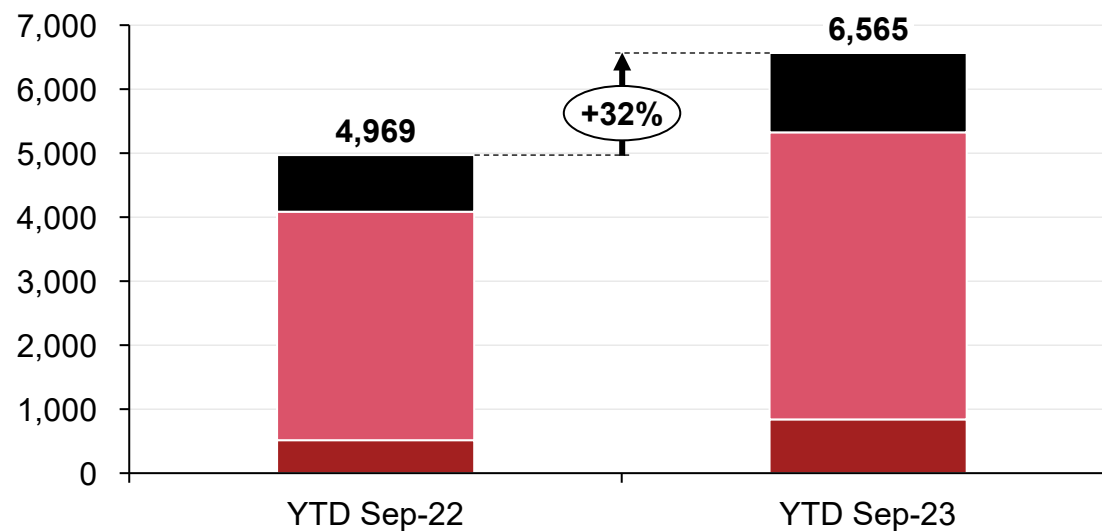


■ WE 5+5 ■ China ■ USA



Battery Electric Vehicles (BEVs)

YTD Sep '22 vs. YTD Sep '23 (in '000 units)



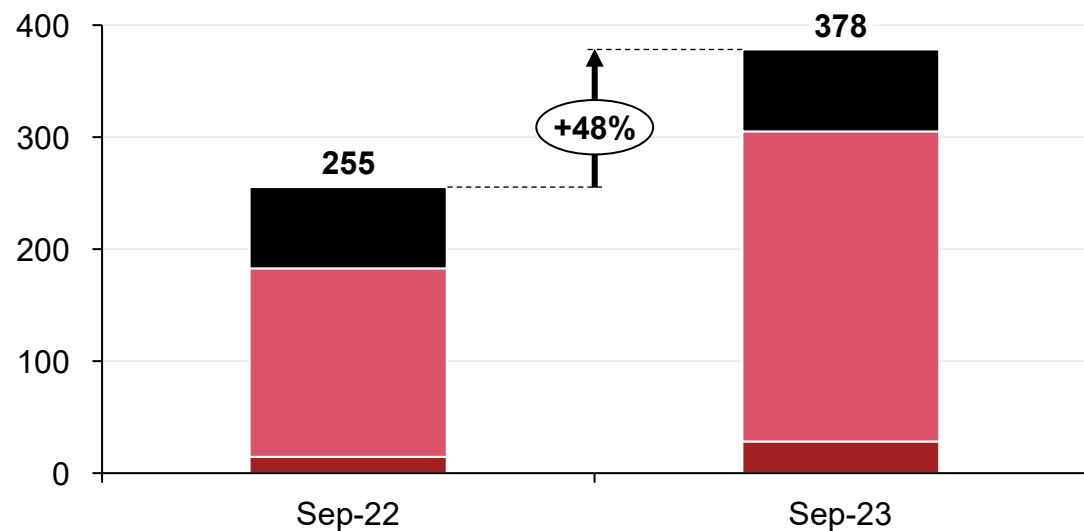


3. Electric vehicle sales data

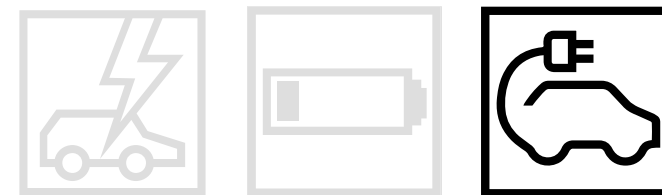
Plug-in momentum stays strong in China

Key Markets

Sep '22 vs. Sep '23 (in '000 units)

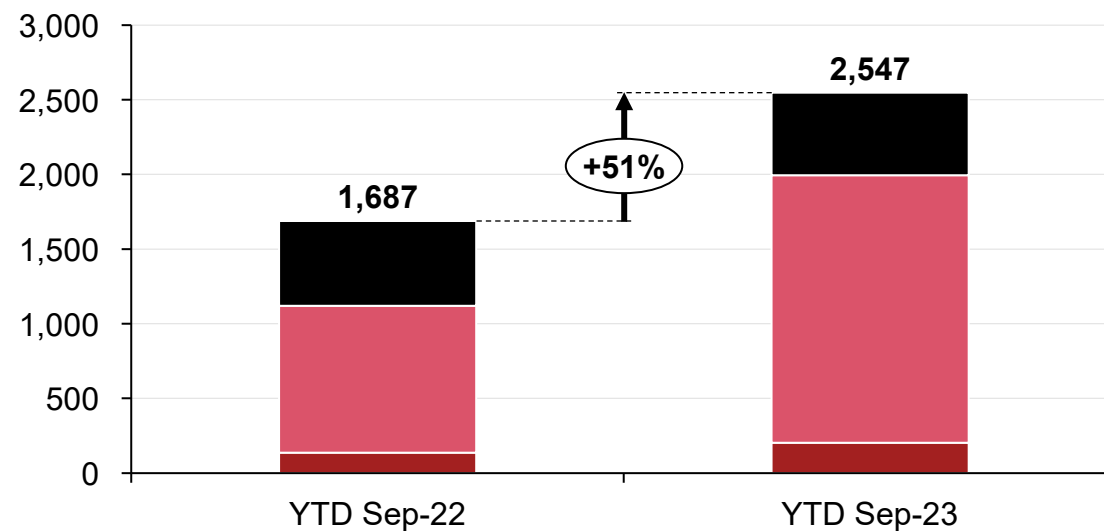


■ WE 5+5 ■ China ■ USA



Plug-in Hybrid Electric Vehicles (PHEVs)

YTD Sep '22 vs. YTD Sep '23 (in '000 units)





4. Western Europe Top 5 and other European markets

Western Europe 5+5

European Top 5: France, Germany, Italy, Spain, and United Kingdom

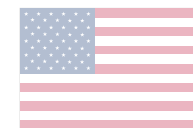
BEV sales in the top 5 European markets grew by 49% in the third quarter of 2023 compared to the corresponding period in 2022.




The strongest increase was recorded in Germany, with growth of 59% in comparison with Q3 2022. Sales were particularly strong in August. There was a rush to purchase company vehicles before BEV subsidies became exclusively available to private buyers at the beginning of September.

The BEV markets in the UK and France also grew strongly, up by 42% and 40% respectively from Q3 2022. BEV sales in Spain grew by 57%, but from a low base. The BEV market share in Spain stands at 6%, compared to 18% in Germany, and 16% in the UK and France.

The Italian BEV market lags behind even further, with market share of just 4%. Moreover, while BEV growth far outstrips that of the overall powertrain market in the vast majority of analyzed markets, the gap is not that wide in Italy. BEV sales in Italy grew by 20% in Q3 2023 vs. Q3 2022, compared to growth of 15% in the overall new vehicle market.

Meanwhile, PHEV sales in the top five markets showed no change from the corresponding quarter last year. Although the PHEV markets in the UK and France grew by 62% and 49% respectively, the overall figure was brought down by a fall of 42% in Germany. Despite the many PHEV models on offer in Germany, it seems that the cessation of PHEV incentives at the end of 2022 has contributed to declining interest.



	WE 5+5	2023 Q3	Comparison to 2022 Q3
	BEV	453,000	+45%
	PHEV	184,000	+3%
	Hybrid	679,000	+30%
	Total	1,316,000	+30%

Other European markets +5: AT, CH, NL, NO, SE

The largest BEV sales growth in the other European markets was seen in the Netherlands and Sweden, with increases of 68% and 56% respectively from the corresponding quarter last year. BEV sales in Norway, which at 83% has the highest BEV market share in the world by a considerable margin, actually declined by 5% QoY as the saturation point is reached. However, even that figure still outperformed the overall Norwegian new vehicle market, which declined by 16% in Q3 2023 vs. Q3 2022.



4. United States

United States

The US BEV market grew by 62% in the third quarter of 2023 in comparison with the same quarter in 2022. Given that the increase in total vehicle sales in the same period was only 17%, the figures are further confirmation of the growing strength of the country's BEV market, which took considerably longer than Europe and China to get off the ground.

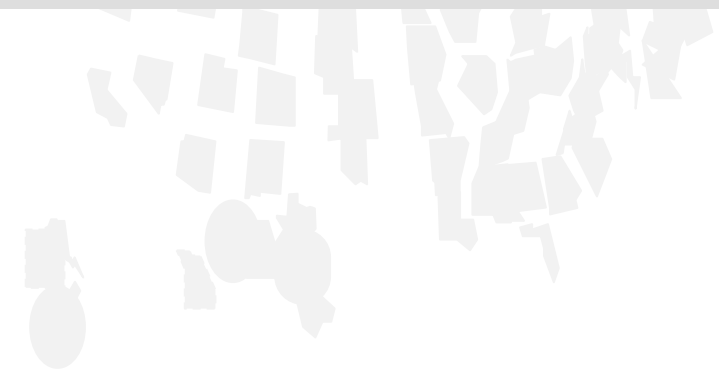
Indeed, 837,000 BEVs have been sold in the USA so far this year. It therefore seems inevitable that sales will pass the one million mark in this calendar year for the first time.

US BEV market share currently stands at 7%. However, it should be noted that this percentage represents a more than threefold increase since the third quarter of 2021, just two years ago, when market share stood at 2%. Government incentives, popular new models and the development of the country's charging infrastructure continue to stimulate popular demand for BEVs.

The HEV and PHEV markets also both performed strongly in Q3 2023. For the second quarter in succession, more hybrids than BEVs were sold, while PHEV sales continued their surge of recent months after a period of slow growth.



USA	2023 Q3	Comparison to 2022 Q3
BEV	303,000	+62%
PHEV	80,000	+98%
Hybrid	321,000	+68%
Total	704,000	+68%





4. China and other countries in Asia

China and other Asian countries

China

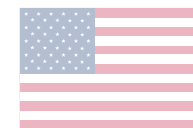
China's BEV sales increased by 16% in Q3 2023 from the corresponding quarter last year. Although this figure still comfortably exceeded the increase of 6% in total vehicle sales over the same period, it constitutes a significant drop from the heady years of 2021 and 2022, when BEV sales grew by 172% and 85% respectively. The slowing growth can be attributed in large part to the weakening economic performance in China and greater interest in PHEVs.




However, PHEV sales have been less affected in recent quarters, and increased by 71% in Q3 2023 compared to the same period last year. The purchase tax exemption for NEVs (new energy vehicles), whose broad definition incorporates both BEV and certain PHEVs with a long enough all electric range, is certainly helping to shore up this market.

The year to date market share for BEVs and PHEVs stands at 21% and 9% respectively.

Japan

Japan's BEV sales increased by 42% in Q3 2023 vs. Q3 2022. However, the BEV market remains tiny, with market share of less than 2%. Indeed, even the PHEV market share is slightly larger, making Japan an outlier among analyzed markets. The EV market is almost completely dominated by the sale of hybrids, which now has a market share of 54%.



	China	2023 Q3	Comparison to 2022 Q3
	BEV	1,765,000	+16%
	PHEV	765,000	+71%
	Hybrid	237,000	-2%
	Total	2,768,000*	+25%

*Numbers may not add up due to rounding

South Korea

BEV sales in South Korea fell by 28% in Q3 2023 from the equivalent period in 2022, the only such decline in all analyzed markets. The BEV market share stands at 9%. In order to revitalize a stagnating market, the government has recently announced plans to increase subsidies for the purchase of BEVs.



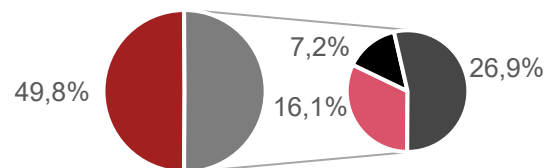
5. Rankings

Shares of EV registrations

EV registrations YTD Sep 2023

WE 5+5

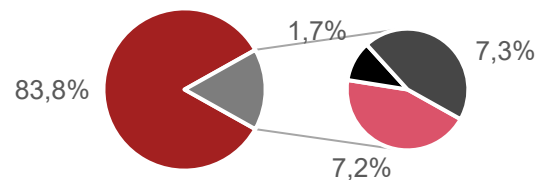
Total registrations	7,732,335
EV registrations	3,880,445



of which BEV	1,243,460
of which PHEV	554,203
of which Hybrid	2,082,782

USA

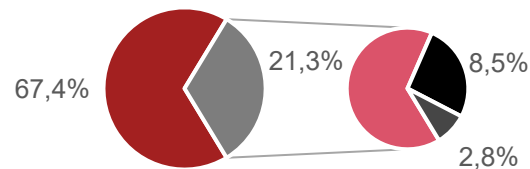
Total registrations	11,614,406
EV registrations	1,886,575



of which BEV	837,290
of which PHEV	202,723
of which Hybrid	846,562

China

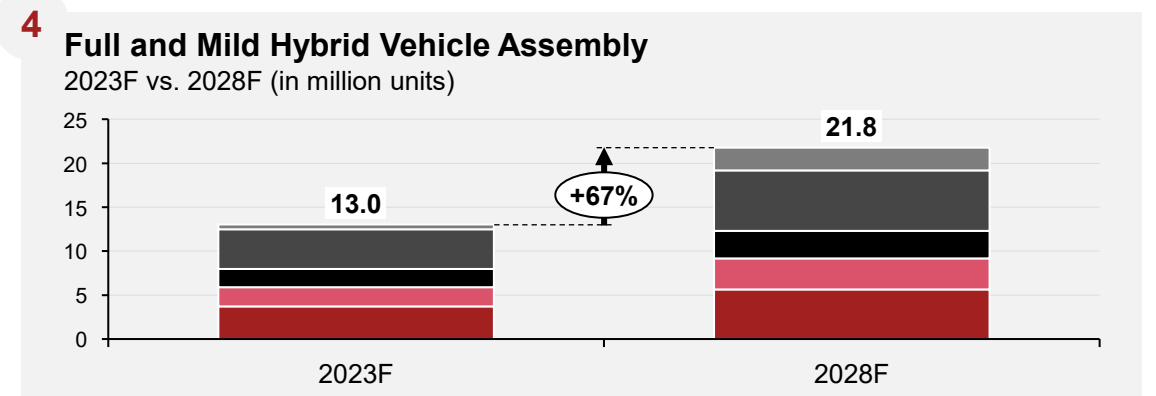
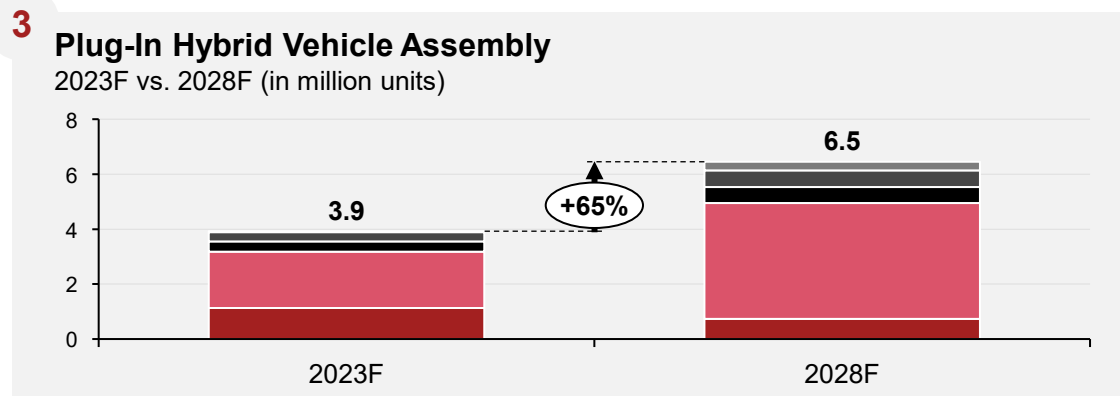
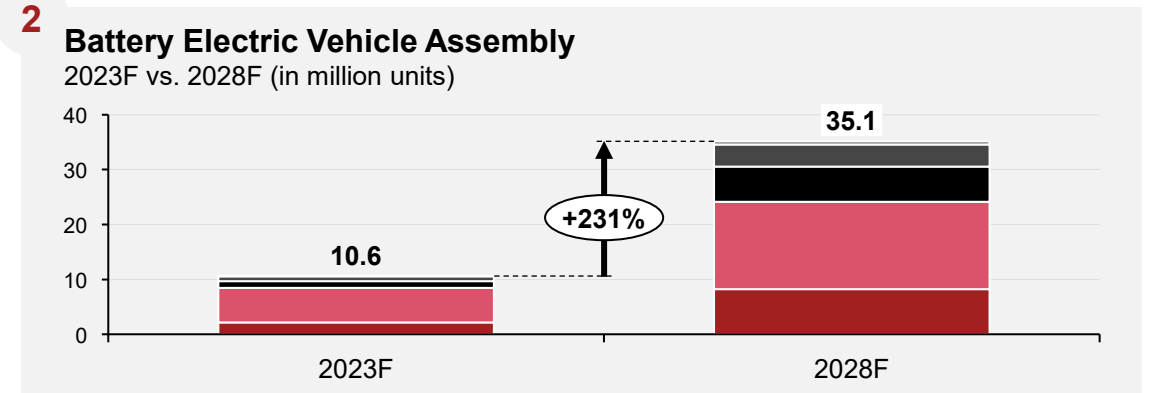
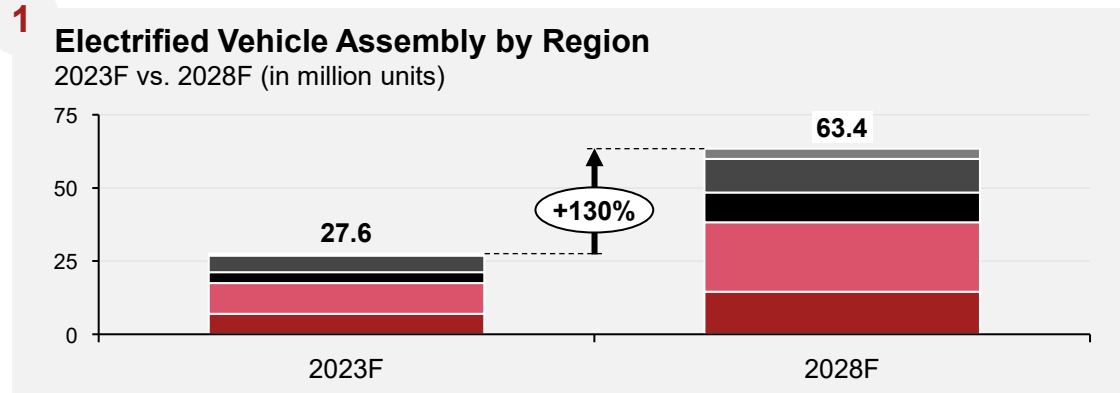
Total registrations	21,066,000
EV registrations	6,872,490



of which BEV	4,484,000
of which PHEV	1,790,400
of which Hybrid	598,090

■ ICE ■ BEV ■ PHEV ■ Hybrid

Electrified vehicle assembly forecast by region

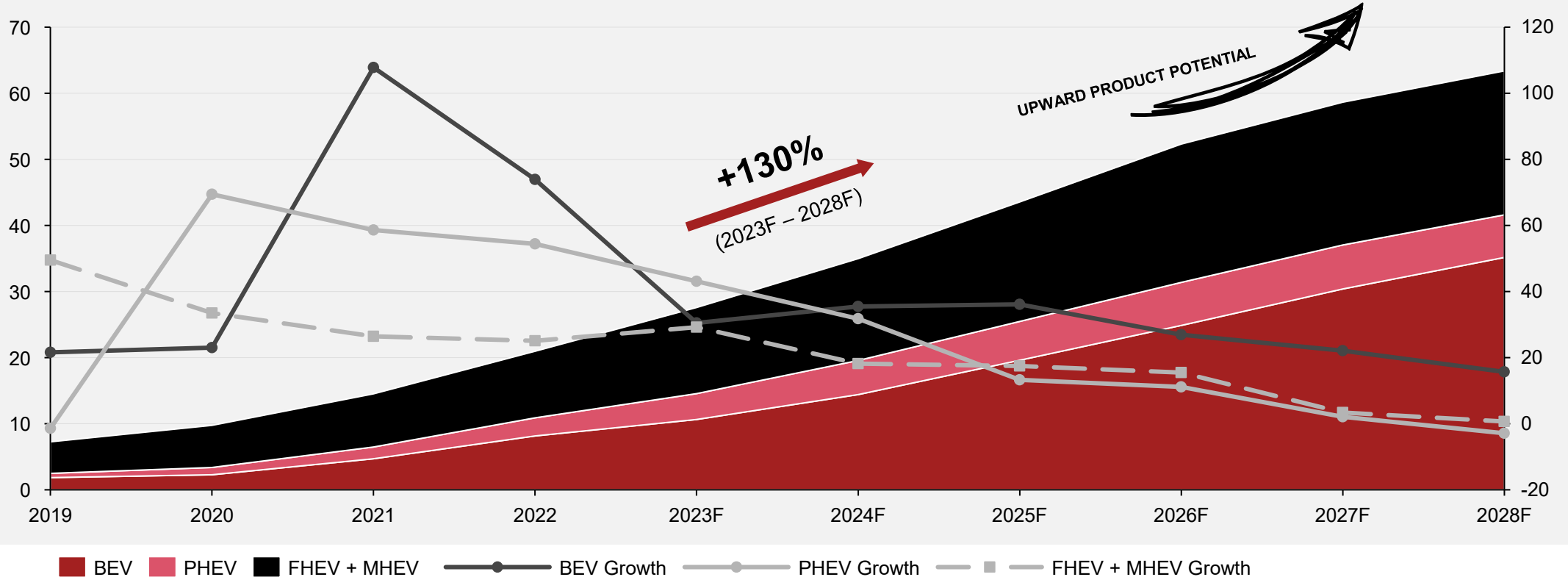


Western + Central Europe China NAFTA Asia-Pacific (w/o China) RoW

Electrified vehicle assembly forecast

5

Global Electrified Vehicles Assembly by Powertrain Type
2019 – 2028F (in million units, percent)

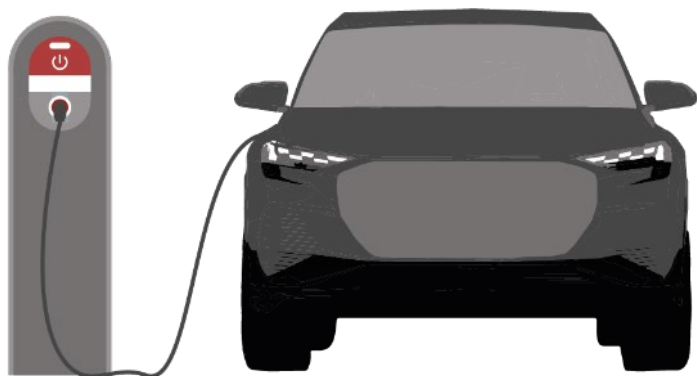




7. Electric vehicle model launches

Overview: BEV model launches

2023 (not exhaustive)

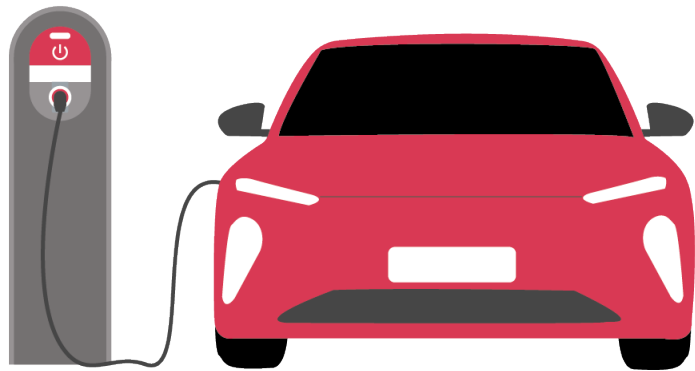


Brand	Model	Launch	Quarter
Audi	Q6 e-tron	2023	Q4
BMW	iX2	2023	Q4
Cadillac	Optiq	2023	Q4
Changan	Qiyuan A07	2023	Q4
Cupra	Tavascan	2023	Q4
Exeed	Sterra ET	2023	Q4
Farizon	Super Van	2023	Q4
Mini	Cooper	2023	Q4
Mini	Countryman	2023	Q4
Nammi	1	2023	Q4
Polestar	4	2023	Q4
Porsche	Macan	2023	Q4
Renault	Scenic	2023	Q4
Tesla	Cybertruck	2023	Q4
Wuling	Xingguang	2023	Q4

Overview: BEV model launches

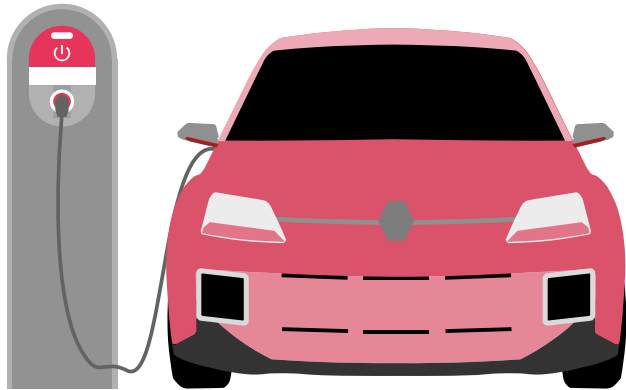
2024–2027 (not exhaustive)

Brand	Model	Launch
Acura	RDX EV	2025
Aito	Wenjie M5	2027
Alfa Romeo	Stelvio	2025
Audi	A3 e-tron	2027
Audi	A6 e-tron	2024
BMW	i3	2026
BMW	i5	2024
Cadillac	Escalade IQ	2024
Chevrolet	Silverado EV	2024
Citroen	e-C3	2024
Cupra	Raval	2026
Fisker	PEAR	2025
Ford	Explorer EV	2025
Honda	e:NP2	2024
Hyundai	Ioniq 7	2024



Overview: BEV model launches

2024–2027 (not exhaustive)



Brand	Model	Launch
Hyundai	Ioniq 8	2026
Kia	EV2	2025
Kia	EV3	2024
Lucid	Gravity	2024
Mercedes-Benz	EQC	2025
MG	Cyberster	2024
NIO	ET5	2027
Nissan	Maxima EV	2025
Skoda	Elroq	2024
Toyota	bZ4X	2025
VinFast	VF8	2025
Volkswagen	ID.2	2026
Volvo	EX40	2026

8. Electric vehicle sales data

Electric vehicle sales data

Germany, UK, France, Italy, Spain, WE-5

		YTD 2023	Market Share	YTD 2022	YoY YTD	Q3 23	QoY Q3 23	Sep 23	MoY Sep 23	Aug 23	MoY Aug 23	Jul 23	MoY Jul 23
	BEV	204,615	15.9%	140,965	45.2%	66,698	40.1%	30,174	34.2%	19,656	59.5%	16,868	31.7%
	PHEV	116,423	9.0%	88,554	31.5%	38,432	49.3%	15,670	34.9%	9,530	38.1%	13,232	83.1%
	Hybrid	303,610	23.6%	237,962	27.6%	98,506	33.3%	38,466	30.3%	27,161	38.5%	32,879	32.8%
	Total EV	624,648	48.5%	467,481	33.6%	203,636	38.3%	84,310	32.5%	56,347	45.1%	62,979	40.6%
France	Others	663,981	51.5%	644,586	3.0%	195,213	1.2%	71,993	-7.1%	57,252	8.9%	65,968	5.1%
	BEV	387,289	18.1%	272,473	42.1%	167,045	58.8%	31,714	-28.6%	86,649	170.7%	48,682	68.9%
	PHEV	123,345	5.8%	215,647	-42.8%	44,280	-42.3%	15,383	-45.7%	14,552	-41.1%	14,345	-39.5%
	Hybrid	490,855	23.0%	344,703	42.4%	166,777	49.6%	57,795	44.1%	55,844	59.0%	53,138	46.6%
	Total EV	1,001,489	46.8%	832,823	20.3%	378,102	28.9%	104,892	-7.0%	157,045	71.0%	116,165	30.9%
Germany	Others	1,136,577	53.2%	1,035,062	9.8%	363,094	7.9%	119,610	6.8%	116,372	8.4%	127,112	8.5%
	BEV	45,769	3.9%	35,869	27.6%	13,092	19.8%	4,944	-2.3%	4,058	77.1%	4,090	14.4%
	PHEV	52,999	4.5%	47,499	11.6%	14,088	24.2%	5,474	37.1%	3,330	35.6%	5,284	7.9%
	Hybrid	419,705	35.7%	331,499	26.6%	123,335	18.5%	53,711	34.8%	27,221	-2.3%	42,403	16.6%
	Total EV	518,473	44.1%	414,867	25.0%	150,515	19.2%	64,129	31.2%	34,609	6.2%	51,777	15.5%
Italy	Others	657,668	55.9%	561,359	17.2%	184,620	11.5%	72,108	16.1%	45,140	16.9%	67,372	4.0%
	BEV	41,861	5.9%	24,318	72.1%	12,650	56.6%	4,482	19.7%	4,065	126.2%	4,103	61.6%
	PHEV	45,428	6.4%	34,719	30.8%	13,546	27.4%	4,943	17.9%	3,386	21.8%	5,217	42.5%
	Hybrid	224,032	31.5%	174,770	28.2%	70,297	23.0%	24,206	14.8%	19,286	22.5%	26,805	31.8%
	Total EV	311,321	43.8%	233,807	33.2%	96,493	27.2%	33,631	15.9%	26,737	31.6%	36,125	36.1%
Spain	Others	400,061	56.2%	366,475	9.2%	109,470	-6.2%	35,172	-8.0%	29,220	-7.5%	45,078	-3.8%
	BEV	238,541	16.4%	175,614	35.8%	85,576	41.8%	45,323	18.9%	17,243	72.3%	23,010	87.9%
	PHEV	98,993	6.8%	73,961	33.8%	36,838	62.3%	18,535	50.9%	6,601	70.0%	11,702	79.1%
	Hybrid	461,739	31.8%	365,971	26.2%	162,175	27.1%	93,393	28.2%	23,410	24.1%	45,372	26.4%
	Total EV	799,273	55.0%	615,546	29.8%	284,589	35.1%	157,251	27.6%	47,254	44.3%	80,084	46.5%
UK	Others	652,635	45.0%	592,822	10.1%	217,599	11.2%	115,359	13.1%	38,403	6.4%	63,837	11.0%
	BEV	918,075	13.6%	649,239	41.4%	345,061	48.6%	116,637	2.5%	131,671	125.4%	96,753	61.3%
	PHEV	437,188	6.5%	460,380	-5.0%	147,184	0.0%	60,005	-0.7%	37,399	-8.2%	49,780	8.2%
	Hybrid	1,899,941	28.1%	1,454,905	30.6%	621,090	31.0%	267,571	31.5%	152,922	30.5%	200,597	30.6%
	Total EV	3,255,204	48.1%	2,564,524	26.9%	1,113,335	30.4%	444,213	17.6%	321,992	48.8%	347,130	33.7%
WE-5	Others	3,510,922	51.9%	3,200,304	9.7%	1,069,996	6.2%	414,242	5.7%	286,387	7.6%	369,367	5.8%

Legend

MoY = Month-on-Year
 QoY = Quarter-on-Year
 YoY = Year-on-Year
 YTD = Year-to-Date

8. Electric vehicle sales data

Electric vehicle sales data

Sweden, Norway, Netherlands, Switzerland, Austria, WE 5+5

		YTD 2023	Market Share	YTD 2022	YoY YTD	Q3 23	QoY Q3 23	Sep 23	MoY Sep 23	Aug 23	MoY Aug 23	Jul 23	MoY Jul 23
	BEV	34,894	19.1%	24,104	44.8%	11,522	19.9%	4,256	-6.5%	3,945	49.5%	3,321	37.3%
	PHEV	13,085	7.2%	9,439	38.6%	4,273	47.5%	1,531	26.1%	1,442	69.1%	1,300	56.6%
	Hybrid	38,383	21.0%	30,485	25.9%	12,304	25.2%	4,469	28.1%	4,036	16.5%	3,799	32.0%
	Total EV	86,362	47.2%	64,028	34.9%	28,099	25.8%	10,256	10.8%	9,423	35.5%	8,420	37.4%
Austria	Others	96,524	52.8%	99,181	-2.7%	28,097	-12.9%	9,584	-16.5%	9,367	-13.7%	9,146	-7.9%
	BEV	92,797	32.2%	49,403	87.8%	29,647	67.5%	11,160	74.2%	10,031	65.4%	8,456	61.8%
	PHEV	38,025	13.2%	26,299	44.6%	11,335	49.9%	3,662	15.4%	3,464	46.7%	4,209	107.5%
	Hybrid	68,551	23.8%	56,889	20.5%	22,148	27.5%	7,890	22.5%	6,852	24.7%	7,406	36.3%
	Total EV	199,373	69.2%	132,591	50.4%	63,130	48.1%	22,712	41.7%	20,347	46.1%	20,071	58.2%
Netherlands	Others	88,790	30.8%	92,095	-3.6%	23,071	-18.6%	7,143	-25.4%	7,385	-22.5%	8,543	-7.6%
	BEV	79,674	83.4%	79,931	-0.3%	24,398	-5.3%	9,000	-20.9%	9,250	0.0%	6,148	20.0%
	PHEV	6,643	7.0%	10,324	-35.7%	1,954	-50.7%	617	-63.0%	724	-48.3%	613	-31.1%
	Hybrid	5,684	6.0%	5,670	0.2%	1,560	-35.6%	442	-45.6%	675	-29.3%	443	-32.4%
	Total EV	92,001	96.3%	95,925	-4.1%	27,912	-13.1%	10,059	-27.5%	10,649	-8.2%	7,204	8.0%
Norway	Others	3,498	3.7%	6,836	-48.8%	1,038	-51.0%	283	-63.8%	434	-42.9%	321	-44.6%
	BEV	81,785	37.7%	58,950	38.7%	28,912	55.5%	12,552	59.5%	9,832	65.9%	6,528	36.2%
	PHEV	43,051	19.9%	47,486	-9.3%	13,822	12.2%	5,351	22.0%	4,575	24.7%	3,896	-8.5%
	Hybrid	20,432	9.4%	21,065	-3.0%	6,146	-12.7%	2,335	-10.5%	2,271	-18.8%	1,540	-5.9%
	Total EV	145,268	67.0%	127,501	13.9%	48,880	28.8%	20,238	36.1%	16,678	34.6%	11,964	11.9%
Sweden	Others	71,487	33.0%	86,325	-17.2%	22,664	-10.7%	8,655	5.8%	7,900	-13.2%	6,109	-24.6%
	BEV	36,235	19.8%	26,513	36.7%	13,071	53.4%	5,133	21.9%	4,289	87.0%	3,649	81.1%
	PHEV	16,211	8.9%	13,643	18.8%	5,578	32.1%	2,086	31.6%	1,715	37.2%	1,777	28.1%
	Hybrid	49,791	27.2%	39,974	24.6%	15,839	27.0%	5,787	17.7%	5,165	27.4%	4,887	39.6%
	Total EV	102,237	55.9%	80,130	27.6%	34,488	36.8%	13,006	21.4%	11,169	47.0%	10,313	49.4%
Switzerland	Others	80,669	44.1%	82,457	-2.2%	24,666	-11.2%	8,572	-16.2%	7,808	-11.1%	8,286	-5.3%
	BEV	1,243,460	16.1%	888,140	40.0%	452,611	44.9%	158,738	7.1%	169,018	99.8%	124,855	56.9%
	PHEV	554,203	7.2%	567,571	-2.4%	184,146	3.4%	73,252	1.1%	49,319	-1.9%	61,575	11.1%
	Hybrid	2,082,782	26.9%	1,608,988	29.4%	679,087	29.8%	288,494	30.1%	171,921	28.4%	218,672	30.4%
	Total EV	3,880,445	50.2%	3,064,699	26.6%	1,315,844	29.8%	520,484	17.7%	390,258	45.2%	405,102	33.8%
WE 5+5	Others	3,851,890	49.8%	3,567,198	8.0%	1,169,532	4.1%	448,479	3.8%	319,281	4.6%	401,772	4.2%

Legend

MoY = Month-on-Year
 QoY = Quarter-on-Year
 YoY = Year-on-Year
 YTD = Year-to-Date

8. Electric vehicle sales data

Electric vehicle sales data

Australia, Brazil, China, India, Indonesia, Japan

		YTD 2023	Market Share	YTD 2022	YoY YTD	Q3 23	QoY Q3 23	Sep 23	MoY Sep 23	Aug 23	MoY Aug 23	Jul 23	MoY Jul 23
	BEV	65,743	7.3%	21,772	202.0%	22,651	87.3%	8,821	21.7%	6,984	64.9%	6,846	1022.3%
	PHEV	6,743	0.7%	4,584	47.1%	3,211	95.4%	1,264	140.8%	1,113	106.1%	834	44.3%
	Hybrid	69,729	7.8%	59,319	17.5%	31,418	72.1%	10,138	119.6%	11,584	68.8%	9,696	43.0%
	Total EV	142,215	15.8%	85,675	66.0%	57,280	79.0%	20,223	63.2%	19,681	69.1%	17,376	118.1%
Australia	Others	757,071	84.2%	725,455	4.4%	260,247	7.9%	90,479	11.5%	90,285	8.0%	79,483	3.9%
	BEV	7,720	0.5%	6,197	24.6%	3,943	40.8%	1,826	29.4%	1,167	23.0%	950	115.9%
	PHEV**	20,035	1.3%	7,233	177.0%	8,560	145.8%	2,226	13.9%	3,707	376.5%	2,627	250.3%
	Hybrid**	29,757	1.9%	20,773	43.2%	12,770	70.4%	4,408	45.7%	4,477	77.5%	3,885	99.6%
	Total EV	57,512	3.7%	34,203	68.1%	25,273	83.5%	8,460	32.4%	9,351	120.1%	7,462	137.9%
Brazil	Others	1,477,325	96.3%	1,363,351	8.4%	574,881	8.3%	179,004	2.6%	187,617	-1.3%	208,260	25.4%
	BEV	4,484,000	21.3%	3,571,000	25.6%	1,765,000	16.3%	627,000	16.5%	597,000	14.4%	541,000	18.4%
	PHEV	1,790,400	8.5%	984,559	81.8%	765,400	71.0%	277,000	64.5%	249,000	72.8%	239,400	77.2%
	Hybrid	598,090	2.8%	626,493	-4.5%	237,322	-2.0%	91,481	14.4%	81,841	2.1%	64,000	-21.9%
	Total EV	6,872,490	32.6%	5,182,052	32.6%	2,767,722	25.4%	995,481	26.6%	927,841	24.3%	844,400	25.3%
China*	Others	14,193,510	67.4%	14,277,948	-0.6%	5,059,278	-2.8%	1,862,519	2.1%	1,654,159	1.1%	1,542,600	-11.6%
	BEV	61,011	1.5%	26,889	126.9%	21,755	107.9%	6,534	82.1%	7,251	112.0%	7,970	130.7%
	PHEV**	225	0.0%	12	1775.0%	119	0.0%	32	0.0%	35	0.0%	52	0.0%
	Hybrid	255,782	6.5%	113,387	125.6%	75,491	50.1%	26,553	36.1%	25,691	37.7%	23,247	91.5%
	Total EV	317,018	8.0%	140,288	126.0%	97,365	60.2%	33,119	43.4%	32,977	49.4%	31,269	100.5%
India	Others	3,638,500	92.0%	3,468,310	4.9%	1,224,532	6.8%	408,189	10.4%	415,203	6.2%	401,140	4.0%
	BEV	10,177	1.8%	3,801	167.7%	4,324	30.8%	1,919	-10.9%	1,331	30.4%	1,074	719.8%
	PHEV	60	0.0%	10	500.0%	41	0.0%	7	0.0%	21	0.0%	13	0.0%
	Hybrid	34,755	6.0%	1,823	1806.5%	17,468	2860.7%	4,894	2574.3%	6,940	3012.1%	5,634	2962.0%
	Total EV	44,992	7.8%	5,634	698.6%	21,833	460.4%	6,820	191.8%	8,292	566.6%	6,721	2033.7%
Indonesia	Others	533,326	92.2%	565,861	-5.7%	172,381	-18.8%	54,916	-26.5%	60,826	-16.4%	56,639	-12.6%
	BEV	33,475	1.7%	22,234	50.6%	10,618	41.9%	4,818	46.9%	3,121	53.4%	2,679	23.5%
	PHEV	39,697	2.0%	30,497	30.2%	14,534	24.9%	5,670	22.6%	3,957	38.2%	4,907	18.3%
	Hybrid	1,086,489	54.0%	792,800	37.0%	348,267	29.1%	128,826	23.1%	96,519	26.1%	122,922	38.7%
	Total EV	1,159,661	57.7%	845,531	37.2%	373,419	29.2%	139,314	23.7%	103,597	27.2%	130,508	37.5%
Japan	Others	851,837	42.3%	817,874	4.2%	269,352	2.2%	98,502	-0.5%	79,702	9.4%	91,148	-0.7%

Legend

MoY = Month-on-Year
 QoY = Quarter-on-Year
 YoY = Year-on-Year
 YTD = Year-to-Date

Source: PwC Autofacts Analysis, KBA, SMMT, PFA, ANFIA, ANFAC, SCB, OFV, RAI, auto-schweiz, Statistik Austria, CAAM, CPCA, JADA, ODMD, MoRTH, ABVE, FCAI, GAIKINDO, PZPM
 *BEV and PHEV sales based on CAAM data; hybrid sales based on CPCA wholesale data; **Partially estimated

8. Electric vehicle sales data

Electric vehicle sales data

Poland, South Korea, Turkey, USA, Analyzed Markets

	YTD 2023	Market Share	YTD 2022	YoY YTD	Q3 23	QoY Q3 23	Sep 23	MoY Sep 23	Aug 23	MoY Aug 23	Jul 23	MoY Jul 23	
	BEV	12,200	3.5%	7,911	54.2%	3,700	18.9%	1,300	-8.1%	1,300	45.7%	1,100	36.6%
	PHEV	9,400	2.7%	7,295	28.9%	2,700	35.3%	900	1.0%	800	2.2%	1,000	211.5%
	Hybrid	132,300	37.8%	103,381	28.0%	45,500	45.5%	16,600	41.3%	15,400	50.5%	13,500	45.2%
	Total EV	153,900	43.9%	118,587	29.8%	51,900	42.6%	18,800	33.8%	17,500	46.9%	15,600	49.7%
Poland	Others	196,415	56.1%	198,093	-0.8%	59,743	-12.0%	20,278	-6.8%	18,677	-14.5%	20,788	-14.4%
	BEV	114,402	8.8%	115,403	-0.9%	35,900	-27.7%	13,499	-34.1%	9,553	-33.8%	12,848	-12.6%
	PHEV	8,576	0.7%	9,909	-13.5%	2,845	4.5%	955	13.6%	900	-8.1%	990	9.8%
	Hybrid	260,547	20.1%	189,143	37.8%	84,618	42.1%	27,930	45.7%	28,735	52.6%	27,953	29.7%
	Total EV	383,525	29.6%	314,455	22.0%	123,363	10.2%	42,384	4.6%	39,188	14.4%	41,791	12.5%
South Korea	Others	910,650	70.4%	908,321	0.3%	277,102	-8.6%	91,325	-8.4%	91,479	-6.1%	94,298	-11.1%
	BEV	33,548	5.0%	4,056	727.1%	23,567	1214.4%	10,439	1250.5%	8,174	988.4%	4,954	1741.6%
	PHEV	1,756	0.3%	537	227.0%	766	215.2%	175	69.9%	212	82.8%	379	1479.2%
	Hybrid	68,307	10.3%	40,352	69.3%	25,657	132.0%	9,408	119.9%	7,228	88.1%	9,021	206.7%
	Total EV	103,611	15.6%	44,945	130.5%	49,990	281.7%	20,022	288.5%	15,614	231.6%	14,354	343.8%
Turkey	Others	562,279	84.4%	354,279	58.7%	185,528	72.0%	58,949	49.1%	53,517	75.3%	73,062	93.3%
	BEV	837,290	7.2%	510,225	64.1%	302,647	61.6%	104,015	64.5%	99,373	72.3%	99,259	49.5%
	PHEV	202,723	1.7%	135,151	50.0%	80,284	97.9%	28,014	93.9%	28,430	115.4%	23,840	84.5%
	Hybrid	846,562	7.3%	610,874	38.6%	320,816	67.5%	109,734	74.4%	107,325	64.5%	103,757	63.7%
	Total EV	1,886,575	16.2%	1,256,249	50.2%	703,747	67.8%	241,763	71.9%	235,128	72.7%	226,856	59.0%
USA	Others	9,727,831	83.8%	8,862,250	9.8%	3,249,859	10.2%	1,090,189	12.2%	1,087,613	9.6%	1,072,057	8.7%
	BEV	6,903,026	13.4%	5,177,628	33.3%	2,646,716	25.6%	938,909	18.9%	904,272	30.7%	803,535	28.5%
	PHEV	2,633,818	5.1%	1,747,358	50.7%	1,062,606	54.4%	389,495	47.4%	337,494	58.0%	335,617	59.7%
	Hybrid	5,465,100	10.6%	4,167,333	31.1%	1,878,414	33.7%	718,466	35.1%	557,661	33.7%	602,287	32.0%
	Total EV	15,001,944	29.0%	11,092,318	35.2%	5,587,736	33.0%	2,046,870	29.1%	1,799,427	36.0%	1,741,439	34.8%
Analyzed Markets	Others	36,700,634	71.0%	35,108,940	4.5%	12,502,435	2.9%	4,402,829	5.1%	4,058,359	4.2%	4,041,247	-0.7%

Legend

MoY = Month-on-Year
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Thank you

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