
Electric Vehicle Sales Review Q2 2023



Foresight to drive the industry
August 2023



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BEV sales increase dwarfs overall market

In almost all major markets, BEV sales grew far more than the total light vehicle market. In the ten Western European focus markets, BEV sales increased by 49% in the second quarter of 2023 in comparison with the equivalent period last year, whereas the total market grew by 17%. In the United States, the corresponding percentages were 67% and 19%, and in China 49% and 29%.

In fact, the only major market analyzed in which BEV and overall powertrain sales growth were in any way comparable was in Italy, where the figures were almost identical (around 19.5%). Of course, BEV growth itself is responsible for much of the overall powertrain sales increase in many markets. When one compares BEV growth with the increase in sales of conventional ICE vehicles, the results are even starker (49% vs. 8% in the ten Western European focus markets, 49% vs. 20% in China, and 67% vs. 14% in the United States).

The growth of each respective BEV market depends to a large extent on its maturity. Year to date, the BEV market in Norway has increased by just 2% compared to the same period in 2022. The apparent stalling of market growth is little surprise when one considers that BEV market share has already reached 83%. The reverse can be seen in BEV markets that have been slow to take off. For example, in India and Turkey, where BEV market share hovers at around just 2%, BEV sales grew by 139% and 341% respectively in the first half of 2023.

Significantly, BEV market share in France, Germany and the UK, the three largest European markets, stands at around 16%, widely considered to be the inflection point at which mainstream consumers give serious consideration to a BEV purchase. Given that the momentum of BEV sales growth is therefore likely to increase, OEMs are positioning themselves to take advantage by offering discounts and new products.

Unlike with BEV sales, the fortunes of the PHEV market have fluctuated markedly. Whereas PHEV sales decreased by 2% in the ten Western European focus markets in Q2 2023 vs. Q2 2022, they grew in China by 105%. PHEVs fall within the definition of the new energy vehicle (NEV) in China, and the purchase tax exemption for NEVs has now been extended for a further four years, to varying degrees.



**The BEV market increased
by more than half its size
across all analyzed markets
in one year**

52%

BEV sales growth across all 20 analyzed markets in Q2 2023 from the same quarter last year

BEV market continues its steady drive into the mainstream

OEMs look to seize station wagon opportunity

Europe is the home of the station wagon, boasting almost two thirds of global sales in 2022 (1 million out of a global total of 1.5 million).¹ Little wonder, therefore, that OEMs in the region are looking to offer electric versions, **further evidence of the steadily growing electrification of the mainstream car market.**

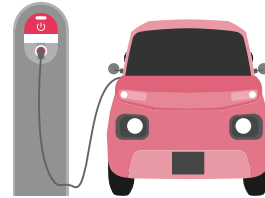
Electric station wagons have a major advantage over SUVs, with superior aerodynamics improving their range and efficiency. The competitively priced MG5 and the much more high-end Porsche Taycan Sport Turismo are the only BEV station wagons currently on the market. But now other OEMs are seizing the opportunity.



For example, the Chinese company Nio has launched the ET5 Touring, a station wagon version of the ET5 sedan, which will spearhead the company's expansion into the European market when sales start towards the end of 2023.² Meanwhile, BMW has confirmed that it will release its i5 Touring in spring 2024, an electric version of the BMW 5 Series Touring that is very popular among European company car drivers.³ Volkswagen is rumored to be adding the ID.7 Tourer to its BEV lineup, a station wagon version of the ID.7 sedan.⁴

Interest in the Micro BEV segment is maximizing

Given the significant costs of the official approval process for standard passenger cars, **OEMs and start-ups are becoming increasingly interested in developing light (L6) and heavy (L7) quadricycles as BEVs for city use.** For OEMs, there is the added bonus that there are fewer requirements for these vehicles to be built with certain expensive safety equipment, such as crumple zones, airbags and radar sensors.



Start-ups find going tough as funding gets tighter

BEV start-ups attracted much interest and investment from capital markets in recent years when they went public. But their fortunes have since dipped, beset by missed production targets, supply chain problems and a generally more downbeat economic climate. Rivian's share price is down over 80% from its record high in 2021 and has been consequently removed from the Nasdaq-100 index.⁵ The Chinese BEV manufacturer Aiways is reportedly in financial difficulties. According to Chinese media, vehicle production at its plant in Shangrao has been suspended since February.⁶ Even worse, Lordstown Motors, Sono Motors and Lightyear all recently filed for bankruptcy or insolvency.^{7,8,9}

As capital funding is now much more difficult to come by, and because there is fierce competition among EV start-ups, further market consolidation is anticipated.

US rivals charge to adopt Tesla charging system

Although its share of the US BEV market has fallen from its peak of 78% in 2018 to 63% in H1 2023, **rival OEMs have been forced to accept Tesla's dominance.** Several have recently announced agreements that will enable owners of their vehicles to use Tesla's proprietary North American Charging Standard (NACS).¹⁰ For its part, Tesla says it hopes that this will increase BEV adoption.

Ford was the first OEM to reach an agreement with Tesla. Currently, the Ford F-150 Lightning and Mustang Mach-E are equipped with a CCS-type charge port, but from spring 2024 an adaptor will allow them to connect to Tesla's chargers. From 2025, Ford's new BEVs will feature a standard NACS plug.

General Motors, Rivian, Mercedes-Benz, Nissan, Volvo and Polestar have all since announced that they will incorporate the NACS charge port from 2025. These OEMs and Tesla represented 81% of all BEVs in H1 2023. The others such as Hyundai and Volkswagen, are now said to be in talks with Tesla.

At the same time, certain charging networks, such as ChargePoint and Electrify America (owned by Volkswagen), have also negotiated deals to offer the NACS connector at its stations in the near future.¹¹

Sources
Strategy& ¹ S&P Global Light Vehicle Sales, June 2023; ² Electrek, 15 June 2023; ³ Topelectricsuv.com, 5 July 2023; ⁴ ArenaEV, 3 July 2023; ⁵ yahoo!finance, 14 June 2023; ⁶ Electrive, 22 June 2023; ⁷ Reuters, 27 June 2023; ⁸ Clean Energy Wire, 17 May 2023; ⁹ CleanTechnica, 2 February 2023; ¹⁰ CNBC, 15 June 2023; ¹¹ Car and Driver, 7 July 2023



1. News and highlights

New emissions targets and incentives reflect government ambitions

Governments seek to stimulate their BEV markets

Authorities throughout the world continue to do what it takes to strengthen their local BEV markets and meet climate goals. Indeed, the two largest economies in the world, the US and China, have recently announced initiatives with these objectives in mind.

The Biden administration in the US has proposed tough new automobile pollution limits that, according to experts, would require around two thirds of all vehicles sold in the country to be electric by 2032, a roughly tenfold increase on the current BEV market share.¹

The Chinese government had previously offered a subsidy for BEV purchases for more than a decade but the program ended in 2022. With sales growth now weakening, it has decided to extend the current NEV (new energy vehicle) purchase tax exemption which was set to expire at the end of 2023. NEVs purchased in 2024 and 2025 will be exempted from purchase tax amounting to as much as 30,000 yuan (\$4,170) per vehicle. The exemption saving will be halved and capped at 15,000 yuan for purchases made in 2026 and 2027.²

Australia has also announced it will introduce new standards targeting vehicle emissions in order to boost BEV sales, with the market currently lagging behind other developed economies.³

However, others look at ways to recoup lost funds

Not only are subsidy programs expensive to run, but many governments have also offered a road tax exemption for BEVs. It is no surprise that moves are afoot to recover some of these costs to the state budget. For example, the House of Representatives in the US State of Texas has approved a \$200 annual fee for BEV owners. The fee is supposed to offset the loss of tax from the sale of fuel. Given that this figure is significantly higher than that currently paid by ICE vehicle owners, the move has drawn some criticism.⁴

OEMs invest in LFP battery development

Lithium iron phosphate (LFP) is a less expensive battery material than its alternatives, cobalt and nickel. **As the BEV industry strives to produce more mainstream, affordable vehicles, LFP is attracting much attention and investment from multiple OEMs.**⁵

For example, Ford is planning to open a \$3.5 billion LFP manufacturing plant in 2026 in Michigan, using technology licensed from China's CATL.⁶ The company will use LFP batteries in its Mustang Mach-E later this year.⁷ Meanwhile, Tesla aims to use LFP batteries in an affordable BEV and a semi-heavy electric truck.⁸

Solar panels on parking structures gain traction

Parking lots throughout the world are starting to be transformed into solar powerhouses that produce cleaner energy and reduce costs. By building solar canopies above these large open spaces, car parks can become an ideal venue for electricity generation. These solar panels also grant the added bonus of offering protection from the elements, keeping cars cooler in the shade.⁹

France has passed a law that required all new parking lots with more than 80 spaces to cover at least 50% of their ground with solar canopies.¹⁰ Some authorities in the US are moving in a similar direction. In Rhode Island, legislation has been submitted which also requires large parking lots to cover 50% of their area with solar canopies.¹¹ California is encouraging this development by offering a sales tax exemption for the materials involved in building solar canopies over parking lots.¹²



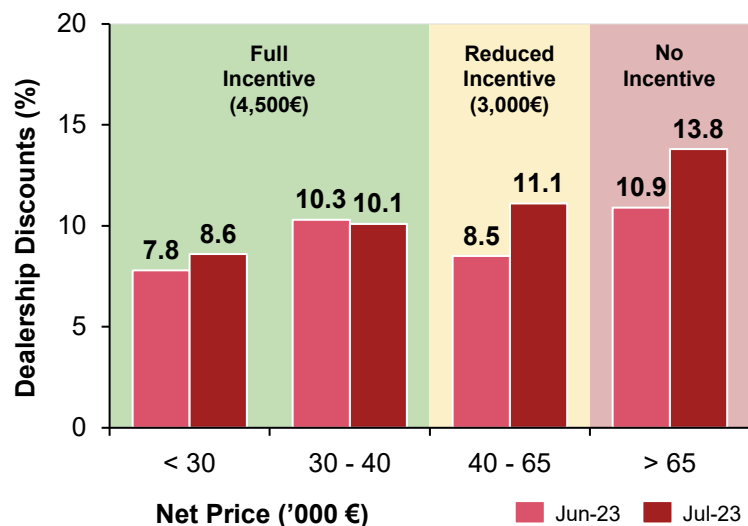


2. Analyst insights

BEV prices fall as OEMs fight to attract mainstream consumers

COVID-19 lockdowns and the resulting shortages from supply chain delays created an upward pressure on prices. However, as supply has now stabilized and production is increasing, competition among OEMs to attract mainstream consumers is leading to price reductions.

PwC Autofacts analysis of prices in the German market reveals that BEV discounts are increasing and are now similar to the level offered for ICE models. Moreover, significant discounts are expected to remain in place for the foreseeable future as the scramble for consumers and economies of scale continues.



In just one month from June 2023, the average BEV discount in Germany increased by 1.5%, and now stands at 10.9% excluding governmental incentives. By comparison, the average discount for ICE vehicles stayed at round 10.3%. The most expensive BEVs, with prices in excess of €65,000 net, were subject to the largest discount increase, up by 2.9% to 13.8%.

OEMs can see the direction of travel over the coming years, and know that the expansion of the BEV market is inevitable. However, the question of how that cake will be divided among OEMs still has to be decided.

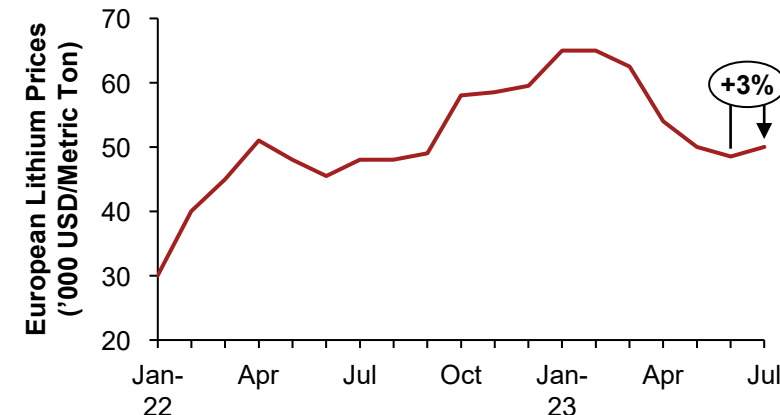
BEV sales have been increasing steadily in Germany over recent years, but still only comprised a market share of 15.8% during the first half of 2023. Many consumers have still to make the leap, and BEVs are not yet quite a mainstream choice of purchase.

Based on the technology adoption lifecycle a mainstream market inflection point – the juncture at which an increase in BEV sales is set to gain significant momentum – is now consistently being reached. The discounts being offered can be seen as OEMs jockeying for prime position to take the spoils during the forthcoming period of rapid market expansion.

Our study also revealed major discrepancies in prices for the same models in Germany and China respectively. Chinese BEVs exported to Germany are around 40-45% more expensive in Germany than in their home market, while BEVs produced and sold in Germany are also around

40-45% more expensive than the equivalent models produced and sold in China. Certainly, Europe is currently the more attractive region for OEMs to sell any excess BEV inventory and further price reductions are possible.

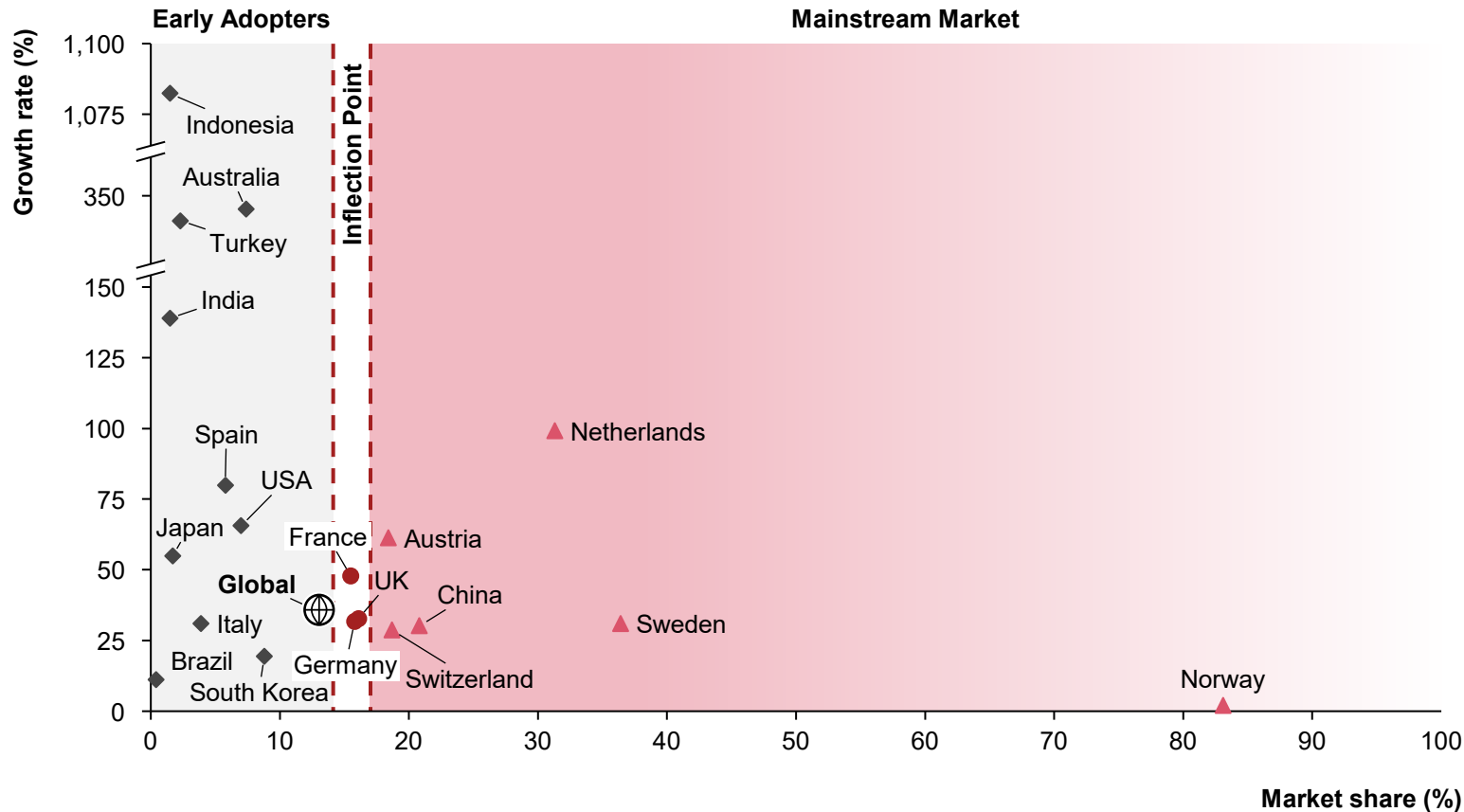
Nevertheless, the discounts being offered in Europe do pose a threat to OEM profit margins, particularly if they continue over a sustained period. The cost of raw materials, such as lithium, is starting to rise again after falling at the start of the year. China's control over much of the world's lithium supply also carries a major strategic risk for OEMs. Should geopolitical tensions with China intensify, access to lithium and refining could be placed in jeopardy. OEMs will therefore need to strike a careful balance between risk and reward as the BEV market heats up further.



BEV sales are accelerating and closing in to the inflection point

BEV Penetration

(in percent)



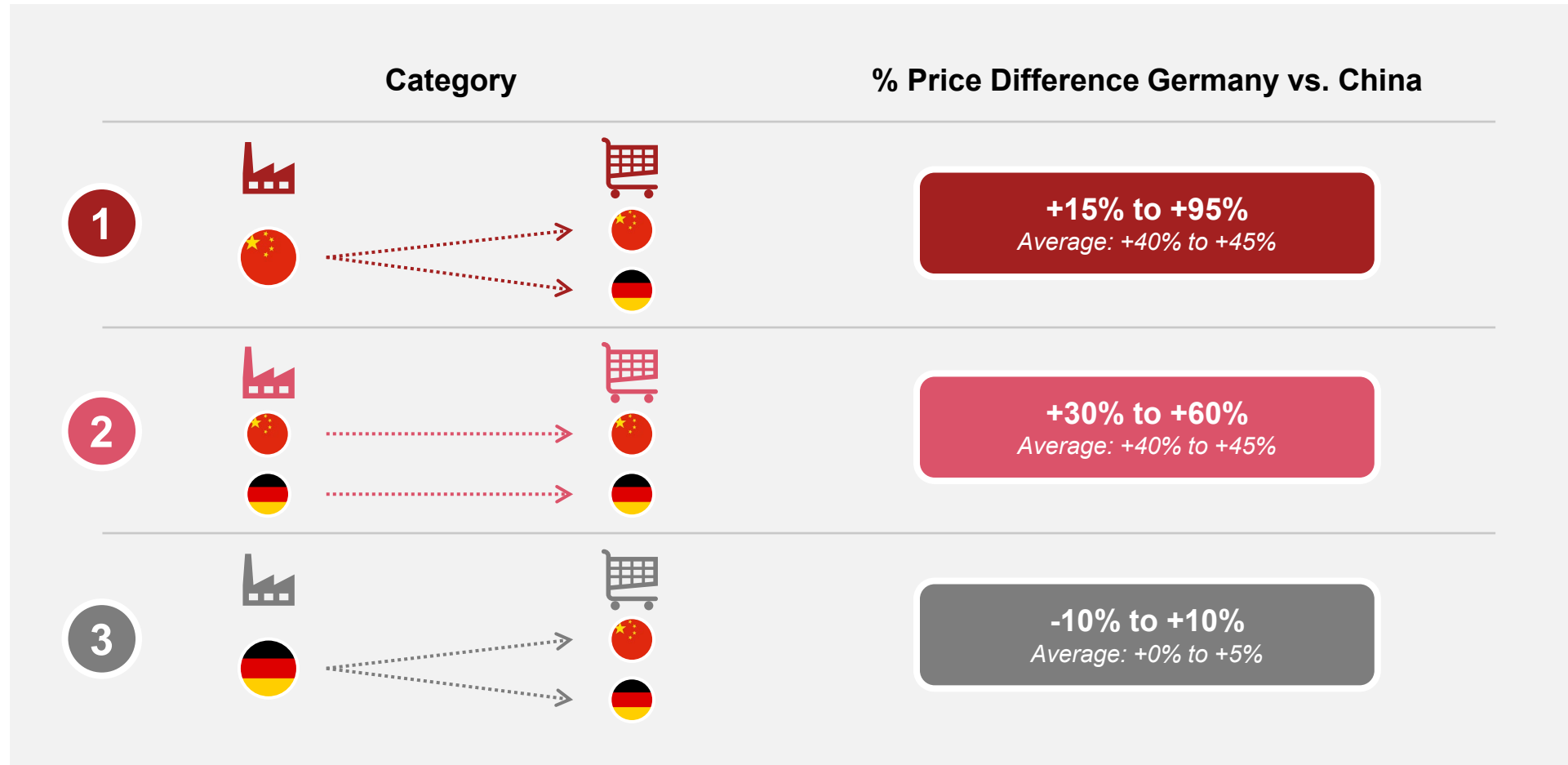
Key Insights

- With a global market share of 13%, **BEVs have not arrived in the mass market yet**, but showed a significant growth of 39% in H1 2023
- The three biggest European economies are **right at the inflection point** with BEV share YoY growths between 32% and 48% **in the first half of this year**
- **Netherlands showed a stark 99% YoY increase in H1 2023**, despite a BEV market share of 31%, and thus already reaching critical mass
- **Norway's BEV sales showed the lowest YTD growth** in the analyzed countries with 2% due to an already saturated BEV market
- **Indonesia** on the other hand, has seen a tenfold increase in YTD BEV sales over last year's H1, albeit **coming from a low base** of less than 500 units



2. Analyst insights

BEV price differences in Germany vs. China



- **Chinese BEVs exported to Germany** are ~40%-45% more expensive in Germany compared to the local market
- **BEVs produced and sold in Germany** are ~40%-45% more expensive than the **equivalent BEV models produced and sold in China**
- German BEVs are on average similarly priced or slightly more expensive in Germany than the **same imported models in China**
- **Reasons** for higher prices in Germany include more stringent approval procedures and broadly higher costs

2. Analyst insights

Tesla Model Y tops domestic models in markets abroad

Top BEV models in H1 2023

European Top 4



	Model	Sales Jan-Jun '23
1	Tesla Model Y	53,746
2	Fiat 500e	25,052
3	Volkswagen ID.4, ID.5	22,093
4	Tesla Model 3	20,915
5	Dacia Spring	20,355
6	Peugeot E-208	16,728
7	MG 4	15,664
8	Volkswagen ID.3	15,552
9	Renault Megane Electric	13,345
10	Audi Q4 e-tron	11,017

USA



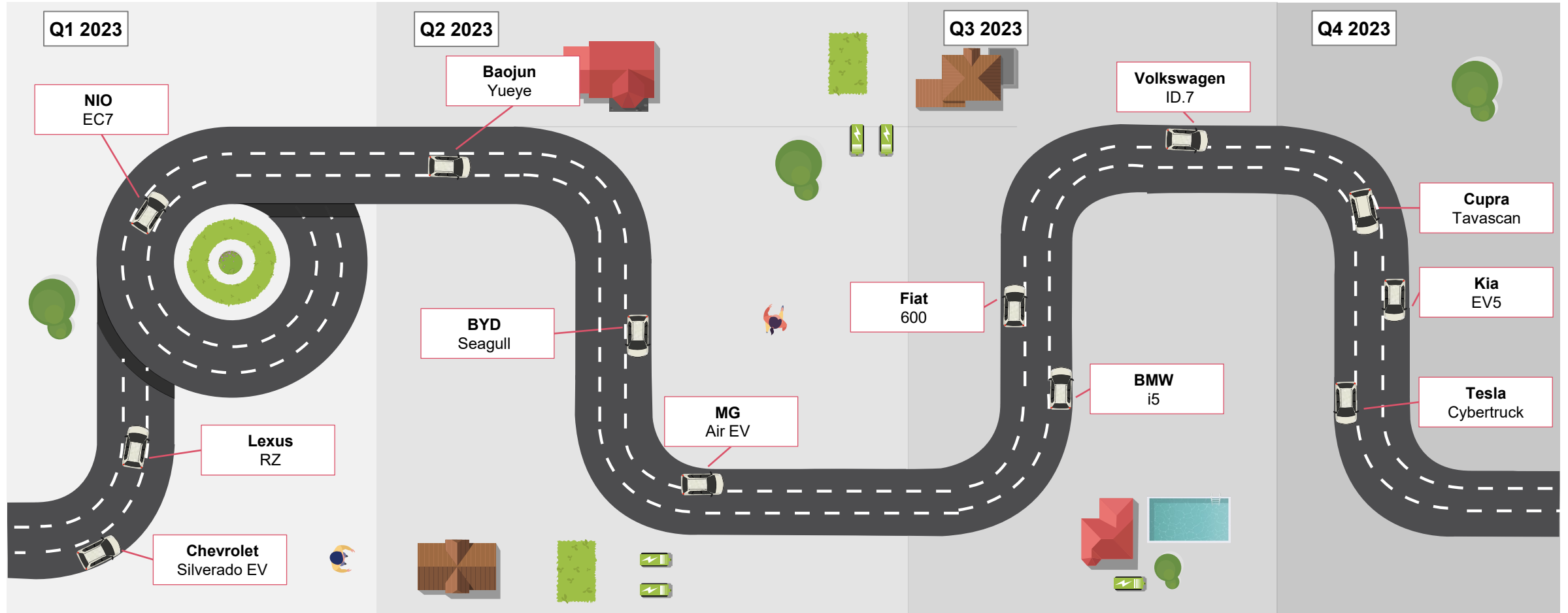
Model	Sales Jan-Jun '23
Tesla Model Y	200,520
Tesla Model 3	112,791
Chevrolet Bolt EV/EUV	33,659
Rivian R1T	16,452
Volkswagen ID.4	16,448
Ford Mustang Mach-E	14,040
Hyundai Ioniq 5	13,641
Tesla Model X	13,475
BMW i4	10,724
Tesla Model S	10,106

China



Model	Sales Jan-Jun '23
Tesla Model Y	203,932
BYD Dolphin	153,401
BYD Yuan Plus	141,077
Wuling Hongguang Mini EV	122,037
Aion S	115,599
Aion Y	92,009
Tesla Model 3	90,173
BYD Qin Plus EV	54,659
Changan Lumin	50,881
BYD Han EV	47,714

New BEV launches drive market growth



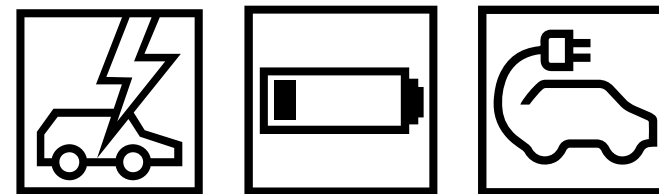
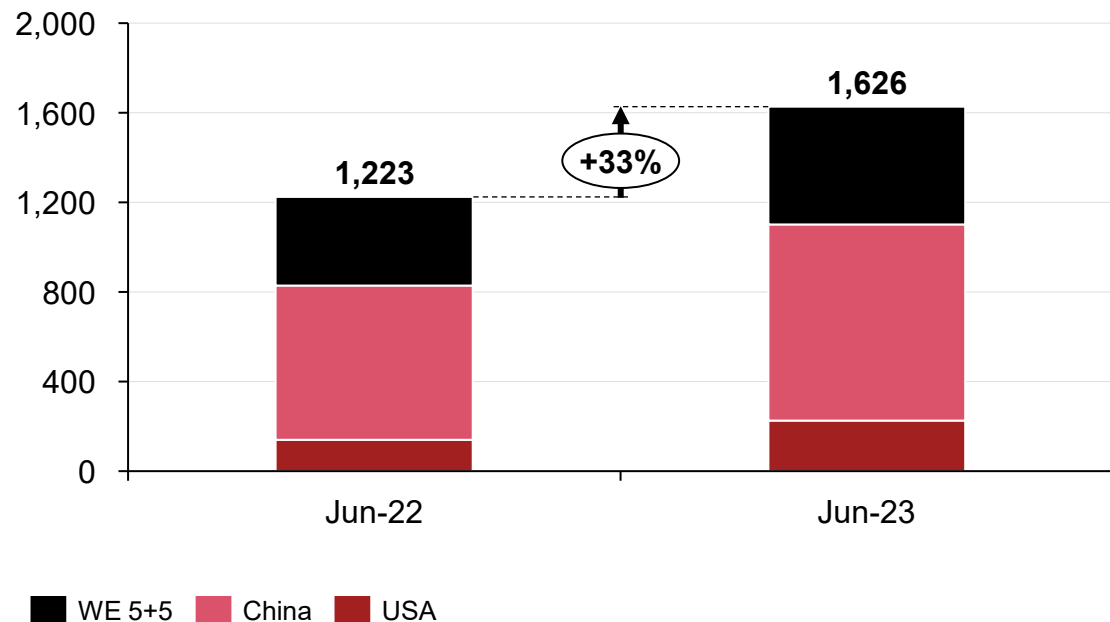


3. Electric vehicle sales data

EV sales remain on the rise

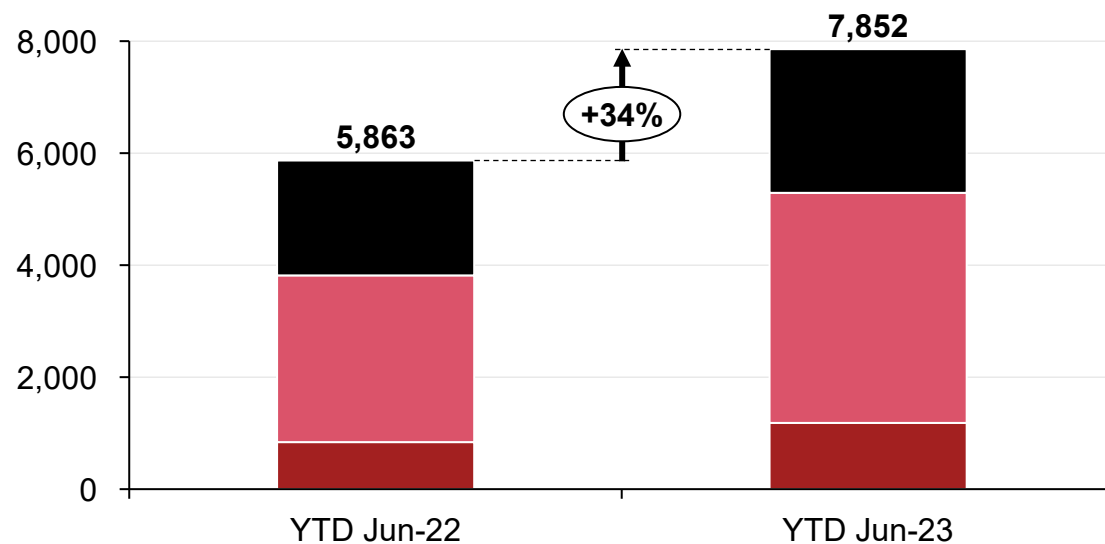
Key Markets

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



Electric Vehicles (EVs*)

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



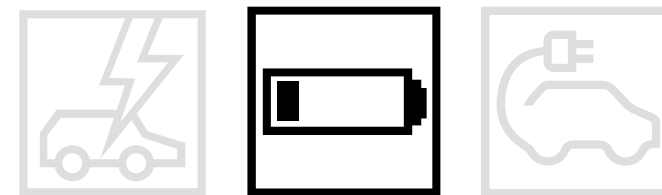
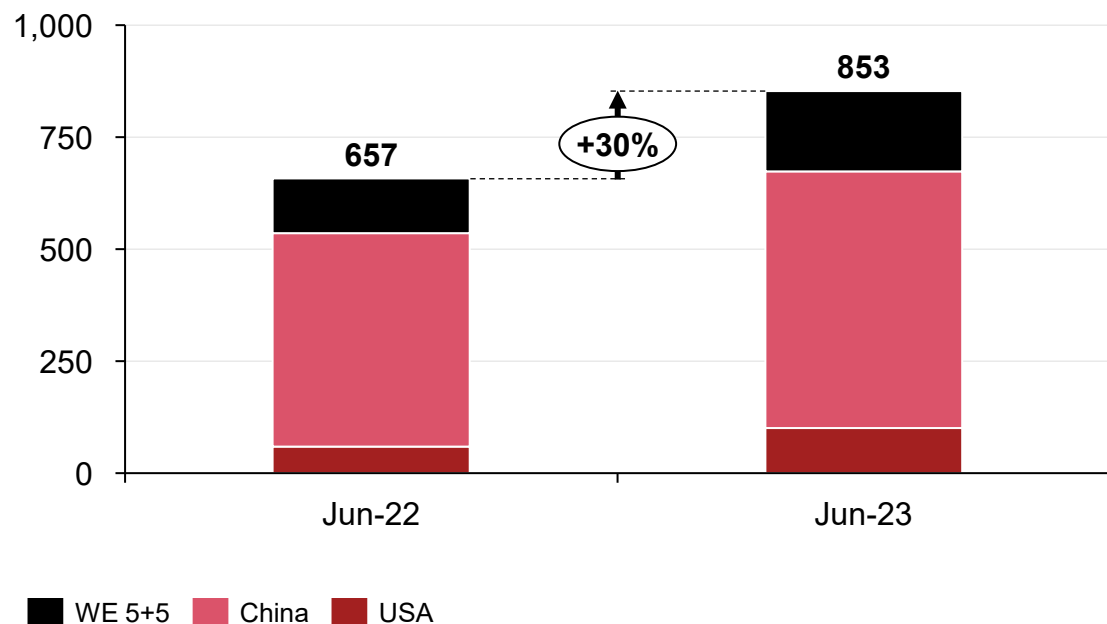


3. Electric vehicle sales data

BEV sales grew fastest in the US

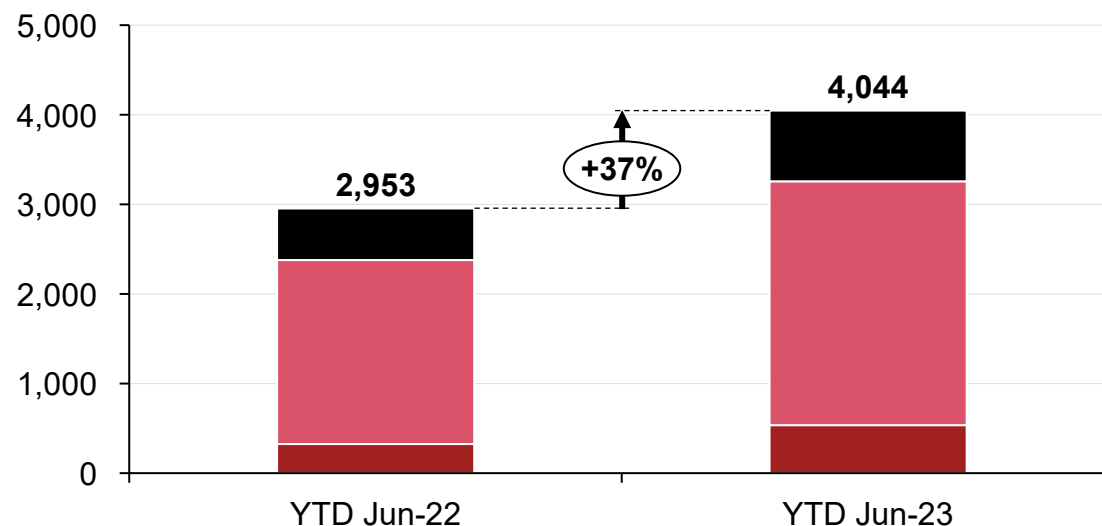
Key Markets

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



Battery Electric Vehicles (BEVs)

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



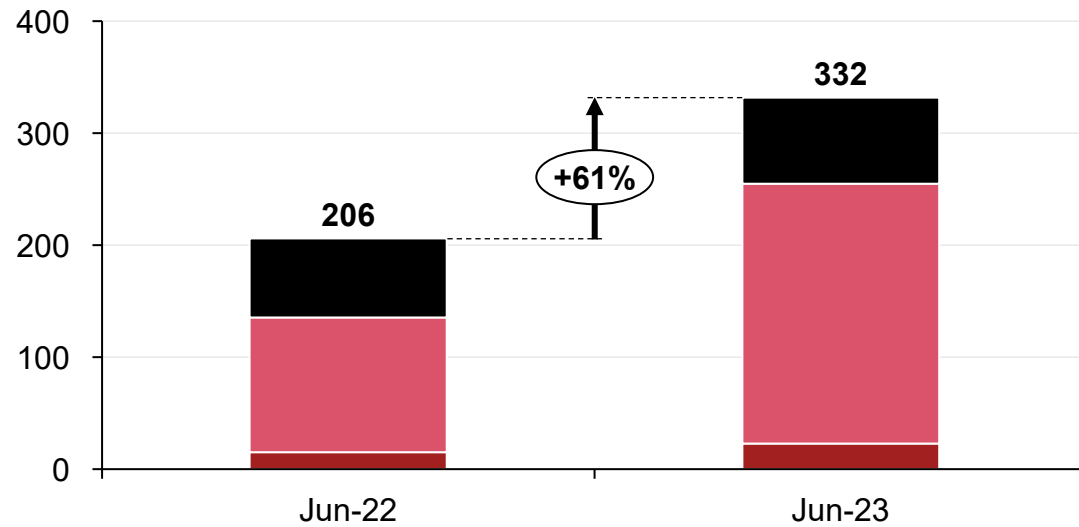


3. Electric vehicle sales data

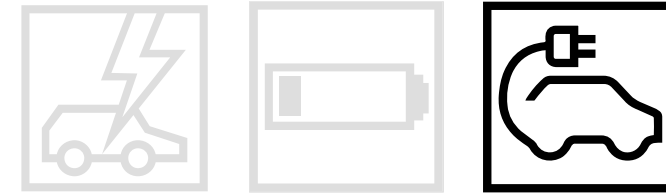
Plug-in momentum stays strong in China

Key Markets

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

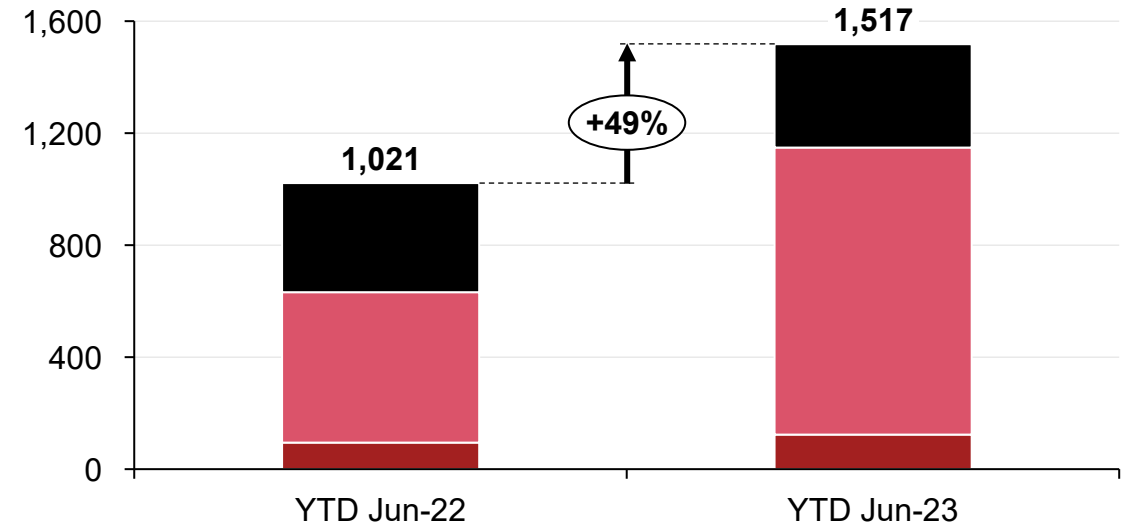


■ WE 5+5 ■ China ■ USA



Plug-in Hybrid Electric Vehicles (PHEVs)

YTD June '22 vs. YTD June '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

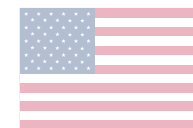
BEV sales in the top 5 European markets grew by 49% in the second quarter of 2023 compared to the corresponding period in 2022.

The strongest percentage increase was recorded in Spain, with growth of 97% from Q2 2022. However, it should be noted that this increase was from a low base, and that the number of BEV units sold in Spain (around 16,000 in the quarter) was dwarfed by the figures in Germany (126,000), UK (77,000) and France (73,000).

These larger BEV markets all enjoyed significant increases in Q2 2023 vs. Q2 2022, with Germany and UK both growing by 50% and France by 47%. Italy is still struggling to make headway in the BEV market. BEV units sold were around 16,000, and its growth rate of 20% from Q2 2022 was easily outperformed by Poland, which registered an increase of 76%. The year to date BEV market share in Poland is also just 0.3% below Italy.

The BEV market shares in Spain and Italy lag behind the other countries in the European top five markets, at nearly 6% and 4% respectively. Meanwhile, BEV market shares in France, Germany and UK all hover around the 16% mark, an accepted inflection point at which many more mainstream consumers seriously consider a BEV purchase and growth rates tend therefore to accelerate.

Meanwhile, PHEV sales in the top five markets declined by 6% vs. Q2 2022. This overall reduction can be attributed in large part to a 42% decrease in Germany, following a total elimination of PHEV incentives at the end of 2022. Year to date, only Italy has a lower PHEV market share out of the European top five markets.



	WE 5+5	2023 Q2	Comparison to 2022 Q2
BEV		429,000	+49%
PHEV		193,000	-2%
Hybrid		711,000	+29%
Total		1,333,000	+28%

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 Austria, with increases of 96% and 66% respectively. It appears that the BEV market share in Norway, easily the highest in the world, is stabilizing at around 83%. Year to date, the total EV market share in Norway is now over 96%.



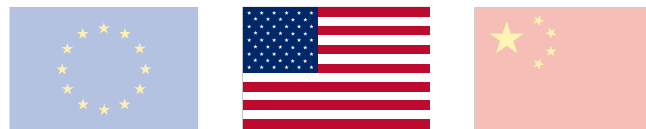
4. United States

United States

The US BEV market grew by 67% in the second quarter of 2023 vs. the same quarter in 2022, once again propelled by government incentives, popular new models and the development of the country's charging infrastructure.

US BEV market share currently stands at only 7%. However, the effect of the above factors, further strengthened by the Biden administration's recent proposals for stringent new automobile pollution limits, are poised to spur a dramatic increase in the BEV share over the coming years.

June 2023 was the first time BEV sales exceeded 100,000 in a single month. Hybrid and PHEV sales both recovered somewhat in Q2 2023. More hybrids than BEVs were sold for the first quarter since Q3 2022, while PHEV sales increased by 51% after several quarters of either much slower growth or even decline. Year to date, the HEV market share remains just below that of BEV.



USA	2023 Q2	Comparison to 2022 Q2
BEV	287,000	+67%
PHEV	71,000	+51%
Hybrid	306,000	+43%
Total	664,000	+53%





4. China and other countries in Asia

China and other Asian countries

China

China's BEV sales increased by 49% in Q2 2023 from the corresponding quarter last year. PHEV sales more than doubled in the same time frame, up by 105%, easily the largest increase among the major markets in our study. With 232,000 units, June 2023 was the best ever sales month for PHEVs in China. In Q2 2023, China accounted for nearly 68% of all PHEV sales in the 20 analyzed markets.

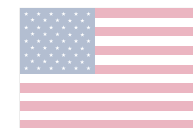
There had been a noticeable weakening of demand in the first quarter of this year, after the decade-long state subsidy for NEV purchases terminated at the end of 2022. In response, the government has decided to extend the NEV purchase tax exemption, which was set to expire at the end of 2023, for a further four years (the exemption saving will be halved after two of those years). This incentive is set to act as a stimulus to both BEV and PHEV markets over the coming years.

Japan

Japan's EV market continues to be almost completely dominated by the sale of HEVs, which boasted an overall market share of 54% in Q2 2023. The BEV market showed some signs of life, growing by 63% from Q2 2022, albeit from a low base. The BEV market share stands at 2%. Year to date, emerging economies such as India and Indonesia have BEV shares slightly below Japan and are currently experiencing much more significant BEV growth compared to 2022.

South Korea

BEV sales in South Korea increased by just 9% in Q2 2023 from the equivalent period in 2022. The BEV market share for the quarter was 9%.



China	2023 Q2	Comparison to 2022 Q2
BEV	1,567,000	+49%
PHEV	592,000	+105%
Hybrid	197,000	+5%
Total	2,355,000*	+54%

*Numbers may not add up due to rounding



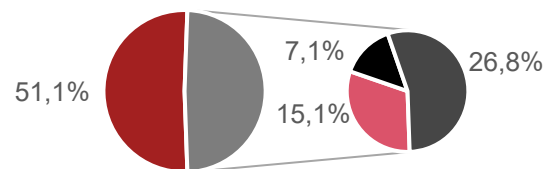
5. Rankings

Shares of EV registrations

EV registrations YTD June 2023

WE 5+5

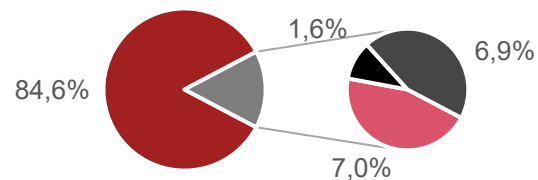
Total registrations	5,246,959
EV registrations	2,564,601



of which BEV	790,849
of which PHEV	370,057
of which Hybrid	1,403,695

USA

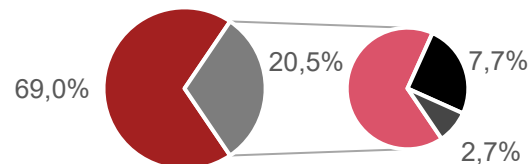
Total registrations	7,660,800
EV registrations	1,182,828



of which BEV	534,643
of which PHEV	122,439
of which Hybrid	525,746

China

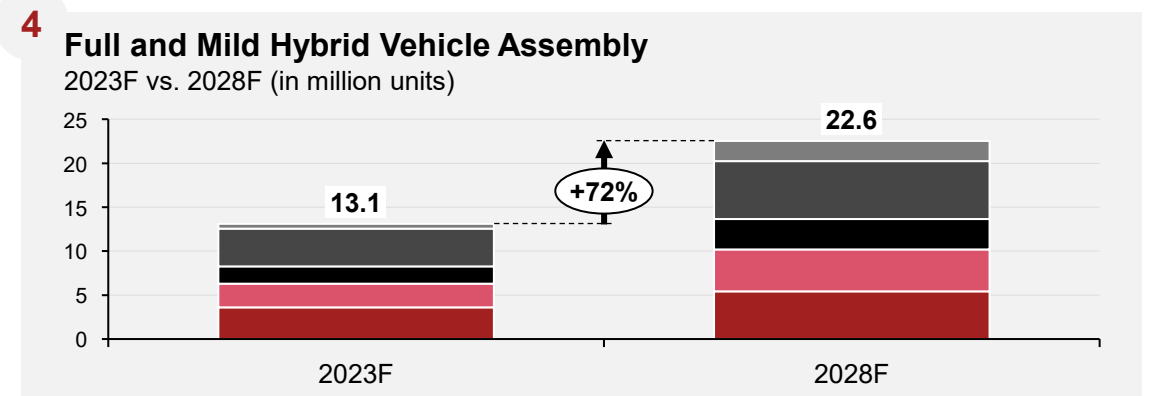
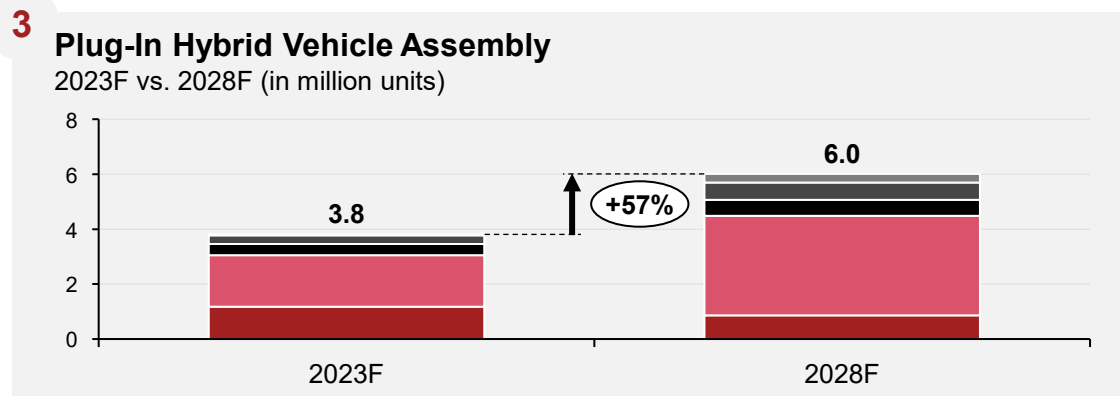
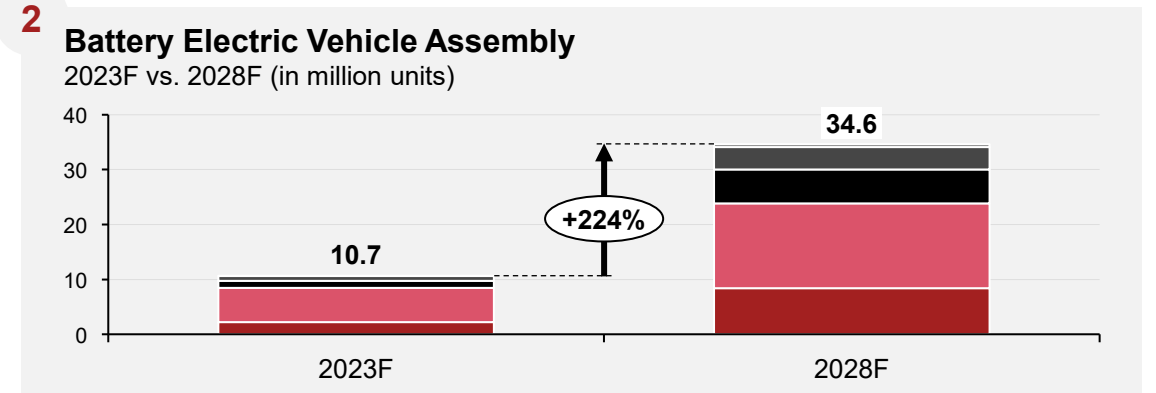
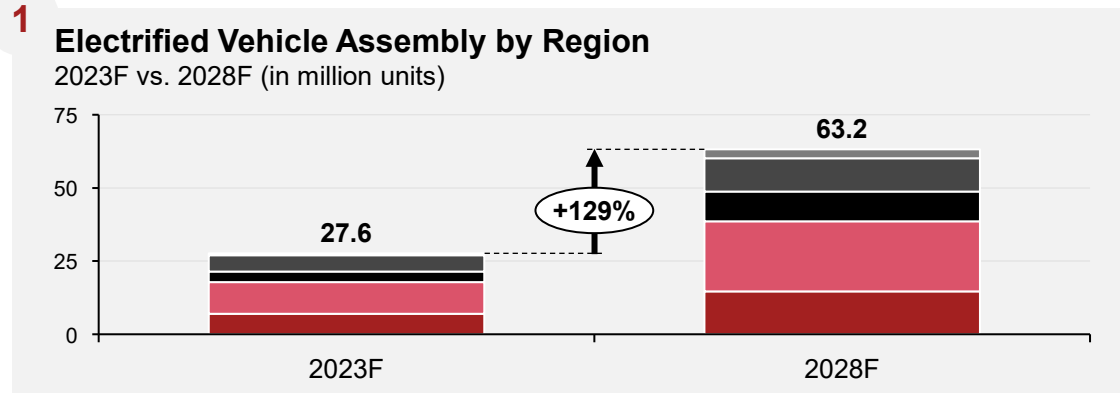
Total registrations	13,239,000
EV registrations	4,104,768



of which BEV	2,719,000
of which PHEV	1,025,000
of which Hybrid	360,768

■ ICE
 ■ BEV
 ■ PHEV
 ■ Hybrid

Electrified vehicle assembly forecast by region

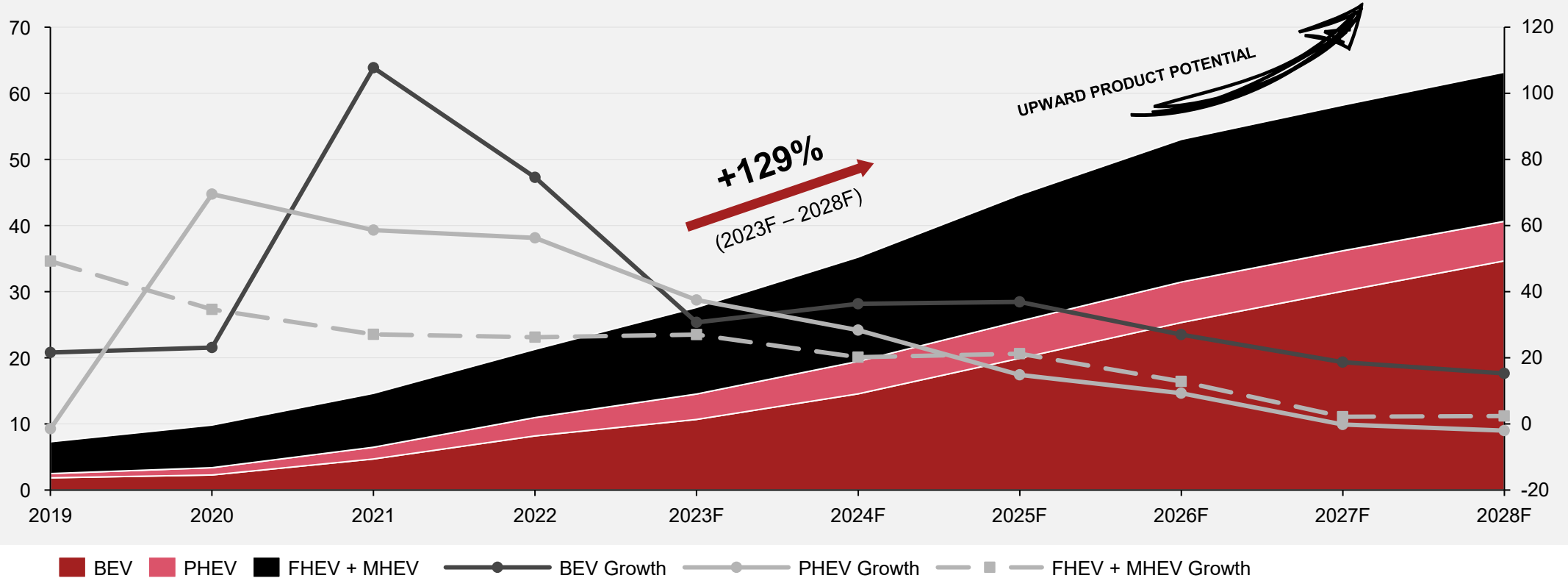


Western + Central Europe China NAFTA Asia-Pacific (w/o China) RoW

Electrified vehicle assembly forecast

5

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

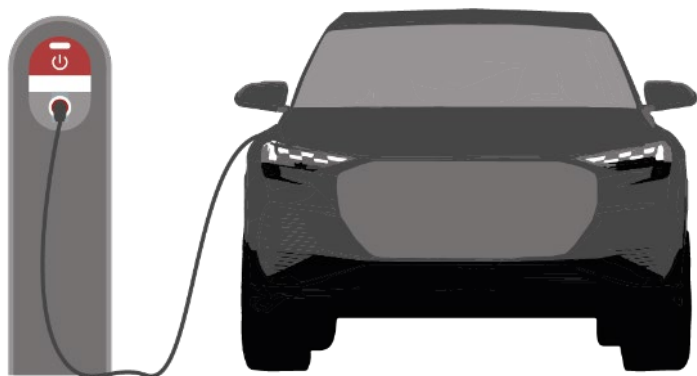




7. Electric vehicle model launches

Overview: BEV model launches

2023 (not exhaustive)



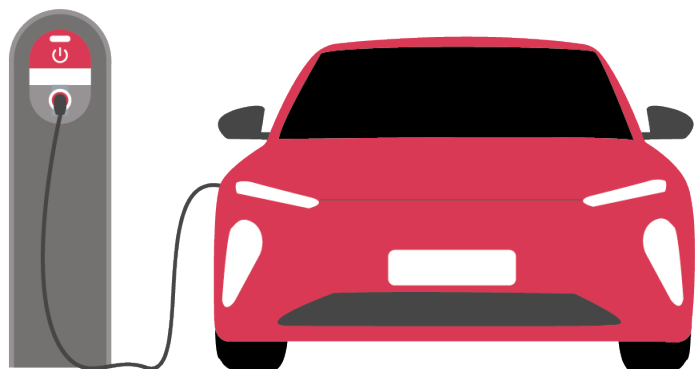
Brand	Model	Launch	Quarter
Aito	Wenjie M9	2023	Q4
BMW	i5	2023	Q3
BMW	iX2	2023	Q4
Chevrolet	Equinox EV	2023	Q3
Cupra	Tavascan	2023	Q4
Fiat	600	2023	Q3
Honda	e:N1	2023	Q4
Kia	EV5	2023	Q4
POER	Shanghai	2023	Q4
Polestar	Polestar 4	2023	Q4
Rolls-Royce	Spectre	2023	Q3
Tesla	Cybertruck	2023	Q4
VinFast	VF7	2023	Q3
Volkswagen	ID.7	2023	Q3
Zeekr	X	2023	Q3



7. Electric vehicle model launches

Overview: BEV model launches

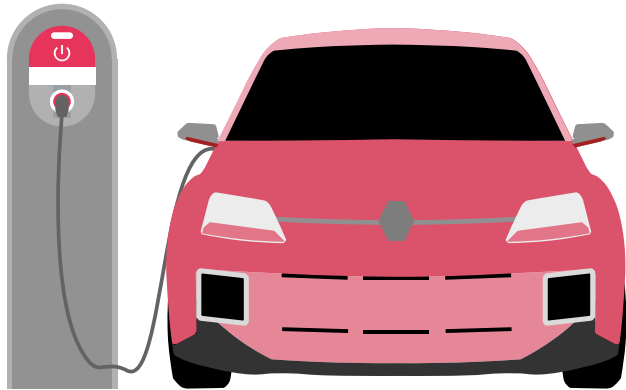
2024–2027 (not exhaustive)



Brand	Model	Launch
Audi	A3 e-tron	2027
BMW	i1	2027
BMW	iX5	2026
BMW	iX7	2027
Cupra	Raval	2025
Fisker	PEAR	2025
Foxtron	Model C	2025
Foxtron	Project X	2026
Honda	Passport EV	2027
Honda	Pilot EV	2026
Hyundai	Ioniq 3	2027
Hyundai	Ioniq 4	2026
Hyundai	Ioniq 8	2025
Kia	EV3	2024
Kia	EV4	2024

Overview: BEV model launches

2024–2027 (not exhaustive)



Brand	Model	Launch
Kia	EV8	2027
Lancia	Gamma	2026
Lucid	Gravity	2024
Mercedes-Benz	EQG	2024
MG	Cyberster	2024
Mini	Aceman	2024
Porsche	718	2025
Renault	5	2024
Rolls-Royce	Cullinan	2027
Toyota	bZ5X	2025
Volkswagen	ID.2	2025
Volkswagen	ID.8	2026
Volvo	ES90	2024
Volvo	EX40	2026
Volvo	EX60	2025

8. Electric vehicle sales data

Electric vehicle sales data

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

		YTD 2023	Market Share	YTD 2022	YoY YTD	Q2 23	QoY Q2 23	Jun 23	MoY Jun 23	May 23	MoY May 23	Apr 23	MoY Apr 23
	BEV	220,244	15.8%	167,263	31.7%	125,508	50.1%	52,988	64.4%	42,780	46.6%	29,740	34.1%
	PHEV	79,065	5.7%	138,880	-43.1%	41,520	-41.6%	15,930	-39.2%	13,803	-40.5%	11,787	-45.7%
	Hybrid	324,078	23.2%	233,240	38.9%	167,842	50.3%	62,319	59.1%	57,842	54.5%	47,681	35.9%
Germany	Total EV	623,387	44.6%	539,383	15.6%	334,870	25.7%	131,237	34.5%	114,425	27.4%	89,208	13.0%
	BEV	152,965	16.1%	115,249	32.7%	76,735	50.2%	31,700	39.4%	24,513	58.7%	20,522	59.1%
	PHEV	62,155	6.5%	51,263	21.2%	30,390	41.3%	12,770	65.5%	9,025	23.0%	8,595	33.3%
	Hybrid	299,564	31.5%	238,365	25.7%	143,513	23.5%	56,208	38.8%	46,142	24.0%	41,163	7.0%
UK	Total EV	514,684	54.2%	404,877	27.1%	250,638	32.8%	100,678	41.9%	79,680	32.8%	70,280	21.6%
	BEV	137,917	15.5%	93,344	47.8%	73,058	46.6%	33,279	52.0%	22,667	48.7%	17,112	34.8%
	PHEV	77,991	8.8%	62,810	24.2%	41,479	23.8%	17,969	50.2%	12,632	11.8%	10,878	6.3%
	Hybrid	205,104	23.1%	164,069	25.0%	111,425	22.5%	46,103	7.2%	34,382	32.2%	30,940	40.9%
France	Total EV	421,012	47.3%	320,223	31.5%	225,962	29.6%	97,351	26.6%	69,681	32.6%	58,930	31.3%
	BEV	32,677	3.9%	24,942	31.0%	16,321	19.5%	6,152	0.1%	6,183	38.2%	3,986	31.5%
	PHEV	38,911	4.6%	36,154	7.6%	19,946	2.4%	7,406	8.0%	6,593	-9.2%	5,947	10.8%
	Hybrid	296,370	35.2%	227,457	30.3%	143,532	28.3%	48,100	29.9%	51,824	27.2%	43,608	27.9%
Italy	Total EV	367,958	43.8%	288,553	27.5%	179,799	24.0%	61,658	23.2%	64,600	23.1%	53,541	26.0%
	BEV	29,211	5.8%	16,239	79.9%	15,594	96.6%	6,533	89.5%	4,984	113.0%	4,077	90.2%
	PHEV	31,882	6.3%	24,086	32.4%	16,929	25.2%	6,520	51.8%	6,062	25.4%	4,347	-1.0%
	Hybrid	153,735	30.4%	117,607	30.7%	80,592	15.1%	30,774	22.0%	27,509	9.1%	22,309	13.8%
Spain	Total EV	214,828	42.5%	157,932	36.0%	113,115	23.6%	43,827	33.0%	38,555	19.1%	30,733	17.6%
	BEV	573,014	12.5%	417,037	37.4%	307,216	49.1%	130,652	51.1%	101,127	51.6%	75,437	42.5%
	PHEV	290,004	6.3%	313,193	-7.4%	150,264	-5.6%	60,595	6.2%	48,115	-10.8%	41,554	-13.7%
	Hybrid	1,278,851	27.9%	980,738	30.4%	646,904	29.2%	243,504	31.7%	217,699	30.6%	185,701	24.5%
WE-5	Total EV	2,141,869	46.7%	1,710,968	25.2%	1,104,384	27.5%	434,751	32.4%	366,941	27.7%	302,692	20.9%

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	Q2 23	QoY Q2 23	Jun 23	MoY Jun 23	May 23	MoY May 23	Apr 23	MoY Apr 23
	BEV	52,873	36.4%	40,360	31.0%	29,684	45.6%	11,005	31.6%	11,696	79.1%	6,983	27.0%
	PHEV	29,229	20.1%	35,172	-16.9%	16,358	-6.3%	5,806	-5.7%	5,991	-2.5%	4,561	-11.5%
	Hybrid	14,286	9.8%	14,025	1.9%	6,898	-6.8%	2,498	20.9%	2,313	-11.0%	2,087	-23.7%
Sweden	Total EV	96,388	66.4%	89,557	7.6%	52,940	17.0%	19,309	16.4%	20,000	30.9%	13,631	1.8%
	BEV	55,276	83.1%	54,177	2.0%	31,045	13.4%	12,801	9.2%	10,773	27.6%	7,471	3.7%
	PHEV	4,689	7.0%	6,364	-26.3%	3,149	-21.8%	1,354	-18.9%	1,092	-20.6%	703	-28.4%
	Hybrid	4,124	6.2%	3,248	27.0%	2,264	9.6%	823	49.9%	1,042	29.0%	399	-43.7%
Norway	Total EV	64,089	96.3%	63,789	0.5%	36,458	8.9%	14,978	7.4%	12,907	21.4%	8,573	-3.7%
	BEV	63,150	31.3%	31,702	99.2%	35,738	95.8%	15,186	95.0%	11,699	118.8%	8,853	73.0%
	PHEV	26,690	13.2%	18,736	42.5%	13,246	51.8%	5,088	87.3%	4,335	51.2%	3,823	21.7%
	Hybrid	46,403	23.0%	39,520	17.4%	24,198	33.9%	9,477	40.5%	7,438	33.7%	7,283	26.3%
Netherlands	Total EV	136,243	67.5%	89,958	51.5%	73,182	62.4%	29,751	72.5%	23,472	70.4%	19,959	42.3%
	BEV	23,164	18.7%	17,992	28.7%	12,914	40.8%	5,226	17.5%	4,313	63.5%	3,375	61.6%
	PHEV	10,633	8.6%	9,421	12.9%	5,428	22.7%	2,302	49.9%	1,683	4.6%	1,443	12.9%
	Hybrid	33,952	27.4%	27,505	23.4%	17,709	25.2%	6,748	31.5%	5,900	22.5%	5,061	20.5%
Switzerland	Total EV	67,749	54.7%	54,918	23.4%	36,051	30.0%	14,276	28.5%	11,896	31.3%	9,879	30.6%
	BEV	23,372	18.4%	14,493	61.3%	12,137	65.6%	4,612	35.1%	4,130	100.1%	3,395	83.6%
	PHEV	8,812	7.0%	6,542	34.7%	4,420	32.5%	1,799	50.9%	1,276	21.2%	1,345	23.3%
	Hybrid	26,079	20.6%	20,654	26.3%	13,397	22.3%	5,003	26.0%	4,429	23.9%	3,965	16.4%
Austria	Total EV	58,263	46.0%	41,689	39.8%	29,954	38.6%	11,414	33.1%	9,835	47.0%	8,705	37.2%
	BEV	790,849	15.1%	575,761	37.4%	428,734	48.5%	179,482	46.9%	143,738	56.7%	105,514	41.2%
	PHEV	370,057	7.1%	389,428	-5.0%	192,865	-2.1%	76,944	9.4%	62,492	-6.7%	53,429	-10.6%
	Hybrid	1,403,695	26.8%	1,085,690	29.3%	711,370	28.5%	268,053	31.8%	238,821	29.8%	204,496	23.2%
WE 5+5	Total EV	2,564,601	48.9%	2,050,879	25.0%	1,332,969	28.3%	524,479	32.5%	445,051	29.9%	363,439	20.9%

Legend

MoY = Month-on-Year
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 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	Q2 23	QoY Q2 23	Jun 23	MoY Jun 23	May 23	MoY May 23	Apr 23	MoY Apr 23
	BEV	43,092	7.4%	9,680	345.2%	25,696	777.6%	11,042	871.2%	8,124	778.3%	6,530	654.0%
	PHEV	3,532	0.6%	2,941	20.1%	2,071	9.3%	735	28.9%	791	13.6%	545	-13.2%
	Hybrid	38,311	6.6%	41,060	-6.7%	22,212	8.5%	9,020	40.8%	7,600	-2.5%	5,592	-10.9%
Australia	Total EV	84,935	14.6%	53,681	58.2%	49,979	97.5%	20,797	156.3%	16,515	75.4%	12,667	63.0%
	BEV	3,777	0.4%	3,397	11.2%	1,797	-14.7%	618	-43.3%	615	10.6%	564	22.3%
	PHEV	11,475	1.2%	3,751	205.9%	6,213	190.9%	2,365	210.0%	2,592	250.7%	1,256	98.1%
	Hybrid	16,987	1.8%	13,279	27.9%	9,443	48.9%	3,242	46.0%	3,228	54.3%	2,973	46.6%
Brazil	Total EV	32,239	3.4%	20,427	57.8%	17,453	64.9%	6,225	52.8%	6,435	90.0%	4,793	53.5%
	BEV	2,719,000	20.5%	2,054,000	32.4%	1,567,000	48.7%	573,000	20.4%	523,000	50.7%	471,000	103.9%
	PHEV	1,025,000	7.7%	536,959	90.9%	591,600	105.2%	232,000	92.9%	194,300	94.2%	165,300	143.0%
	Hybrid	360,768	2.7%	384,406	-6.1%	196,589	5.2%	71,830	-21.3%	62,373	7.5%	62,386	65.9%
China*	Total EV	4,104,768	31.0%	2,975,365	38.0%	2,355,189	54.0%	876,830	27.5%	779,673	54.4%	698,686	107.6%
	BEV	39,256	1.5%	16,426	139.0%	22,129	157.5%	8,018	144.5%	7,859	161.5%	6,252	170.8%
	PHEV	106	0.0%	12	783.3%	98	1860.0%	57	0.0%	24	1100.0%	17	466.7%
	Hybrid	180,291	6.8%	63,081	185.8%	80,343	130.5%	26,152	111.8%	26,184	70.4%	28,007	292.6%
India**	Total EV	219,653	8.3%	79,519	176.2%	102,570	136.1%	34,227	119.0%	34,067	85.4%	34,276	262.9%
	BEV	5,853	1.5%	495	1082.4%	4,053	840.4%	1,208	815.2%	1,560	680.0%	1,285	1198.0%
	PHEV	19	0.0%	10	90.0%	18	0.0%	9	0.0%	7	0.0%	2	0.0%
	Hybrid	17,287	4.5%	1,233	1302.0%	10,869	1751.6%	4,718	2136.0%	3,283	1776.0%	2,868	1326.9%
Indonesia	Total EV	23,159	6.0%	1,738	1232.5%	14,940	1367.6%	5,935	1630.3%	4,850	1193.3%	4,155	1285.0%
	BEV	22,857	1.7%	14,752	54.9%	10,699	63.1%	4,110	21.6%	3,280	108.7%	3,309	105.5%
	PHEV	25,163	1.8%	18,864	33.4%	12,698	48.9%	5,171	56.4%	3,569	20.9%	3,958	74.4%
	Hybrid	738,222	53.9%	522,948	41.2%	325,676	51.9%	126,141	60.7%	98,434	51.0%	101,101	42.8%
Japan	Total EV	786,242	57.4%	556,564	41.3%	349,073	52.1%	135,422	59.0%	105,283	51.0%	108,368	45.1%

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	Q2 23	QoY Q2 23	Jun 23	MoY Jun 23	May 23	MoY May 23	Apr 23	MoY Apr 23
	BEV	8,500	3.6%	4,800	77.1%	4,400	76.0%	1,800	80.0%	1,400	75.0%	1,200	71.4%
	PHEV	6,700	2.8%	5,300	26.4%	3,600	33.3%	1,300	44.4%	1,200	20.0%	1,100	37.5%
	Hybrid	86,800	36.4%	72,100	20.4%	40,400	5.5%	14,800	10.4%	13,600	6.2%	12,000	-0.8%
Poland	Total EV	102,000	42.7%	82,200	24.1%	48,400	11.3%	17,900	17.0%	16,200	11.0%	14,300	5.1%
	BEV	78,502	8.8%	65,772	19.4%	42,636	9.2%	14,753	21.2%	13,544	-5.9%	14,339	15.0%
	PHEV	5,731	0.6%	7,187	-20.3%	3,778	24.0%	1,505	55.2%	1,311	47.1%	962	-18.8%
	Hybrid	175,929	19.7%	129,585	35.8%	96,634	29.6%	35,318	38.8%	32,010	30.9%	29,306	18.8%
South Korea	Total EV	260,162	29.1%	202,544	28.4%	143,048	22.6%	51,576	33.7%	46,865	17.9%	44,607	16.4%
	BEV	9,981	2.3%	2,263	341.1%	6,215	422.3%	2,502	401.4%	2,095	457.2%	1,618	413.7%
	PHEV	990	0.2%	294	236.7%	669	215.6%	305	272.0%	208	136.4%	156	271.4%
	Hybrid	42,650	9.9%	29,291	45.6%	24,097	33.7%	7,987	38.8%	7,609	19.3%	8,501	44.2%
Turkey	Total EV	53,621	12.5%	31,848	68.4%	30,981	59.4%	10,794	70.3%	9,912	44.9%	10,275	64.3%
	BEV	534,643	7.0%	322,903	65.6%	287,173	66.6%	100,252	69.7%	94,290	63.1%	92,631	67.1%
	PHEV	122,439	1.6%	94,590	29.4%	70,783	50.7%	22,596	49.4%	24,832	57.1%	23,355	45.5%
	Hybrid	525,746	6.9%	419,312	25.4%	306,039	43.0%	101,679	55.2%	103,832	41.0%	100,528	34.2%
USA	Total EV	1,182,828	15.4%	836,804	41.4%	663,995	53.2%	224,527	60.7%	222,954	51.4%	216,514	47.9%
	BEV	4,256,310	12.7%	3,070,249	38.6%	2,400,532	52.1%	896,785	31.9%	799,505	54.2%	704,242	85.3%
	PHEV	1,571,212	4.7%	1,059,336	48.3%	884,393	60.5%	342,987	61.5%	291,326	54.0%	250,080	67.4%
	Hybrid	3,586,686	10.7%	2,761,985	29.9%	1,823,672	33.9%	668,940	32.6%	596,974	32.7%	557,758	36.8%
Analyzed Markets	Total EV	9,414,208	28.0%	6,891,569	36.6%	5,108,597	46.3%	1,908,712	36.7%	1,687,805	45.8%	1,512,080	61.4%

Legend

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



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