

Global Automobiles

EV tracker Jan 24: Penetration rate crash; start of a global BEV downturn?

Industry Overview

BEV Sales in Jan 24: First glance ok, second glance bad

The first glance at the EV sales data in January 24 does not look too bad with global BEV sales (c700k units in total) up +54% y/y (vs our FY24 forecast of c+21% y/y). The second glance is worse though as: 1) the year-ago base was weak, when BEV sales were flat y/y and down 50% vs Dec 22; and 2) the BEV penetration rate disappointed at just 10.1% (vs 14.1% in Dec 23). We observe in China & Europe sequential BEV unit sales declines of c-40% in Jan 24. The ultimate question is, if this is simply a seasonally related decline or if it will become permanent. We think it can be a mix of both. January is typically a weaker month, because OEMs push sales to a greater extent in December, however, in some regions subsidies were also phased out. For example, in Germany the EV subsidy has phased out and in some Chinese cities' local subsidies expired in Dec 2023 (RMB3-8k), replaced with a purchase tax on EV's with retail price >RMB339k effective from Jan 2024. It should be noted that **PHEV sales held up better** globally and declined just by -18% m/m and the penetration rate just dropped just marginally by -0.5% vs Dec 23.

BEV Sales by OEM: Market leaders lose share

It was anything but a strong start to the year from the BEV market leaders. Key highlights: **1) BYD** is losing BEV market share since November (M/S 16.0% in Jan 24 down from 17.1% in Q4 23 on average). **2) Tesla's** M/S also declined in January, though this is typically the case beginning of the quarter. The Cybertruck is not yet a boost for sales as just 300 vehicles were registered in January. **3) VW** (still global number 3 in terms of BEV sales) lost 0.8% global M/S and consequently is amongst the main losers. In Europe, we get the impression that the order book for the ID.4 and ID.3 is weak. Both models sold poorly in January, whereas the Audi Q4 e-tron (with potentially a better order book) is now outselling the cheaper VV brand BEVs. **4) Mercedes vs BMW:** Mercedes gained some M/S back from BMW. **5) Main M/S winners in Jan** were largely driven by China: Geely Auto Group (also Zeekr brand), Changan, Dongfeng Motor, Hozon Auto, FAW. **6) Volvo's** new EX30 shows a slow start in Jan 24 (just c2,250 deliveries).

Other highlights: Price wars in EU & China unfold further

1) EU price war: EV used car prices in the UK still declined by c20% y/y (Exhibit 25/26), with premium BEV prices still under a bit more pressure. Discounts on new EVs soared in Jan/Feb too across the board. **2) China price war:** BYD in China: Brutal price cuts to defend market share with PHEV Qin Plus DM-I prices now starting at CNY79,800, -20% below the previous edition. Also some BEV models got a lot cheaper: Yuan Plus (Atto 3) price lowered by 11% (cUSD2,200), Dolphin -5%, and cheaper Honor editions of the Han, Tang, and Seal with price cuts of 5-15%. Several other OEMs (i.e. XPeng, Wuling, Chery, GAC Aion) followed with similar price cuts. **3) Weak sales guidance by some Chinese OEMs for Q1 24:** Nio deliveries c-35% q/q, Li Auto c-25% q/q. **4) Battery costs:** S&P says battery cell prices continued to fall c-8% since Jan '24 on top of c-45% decline in 2023. Therefore, to some extent BEV makers can afford higher price discounts in 2024.

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Refer to important disclosures on page 25 to 27.

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Equity
Global
Autos/Car Manufacturers

BofA

Data
Analytics

Horst Schneider >>
Research Analyst
BofA Europe (Frankfurt)
+49 69 5899 5080
horst.schneider@bofa.com

Michael Jacks, CFA >>
Research Analyst
MLI (UK)
+44 20 7996 1085
michael.jacks@bofa.com

John Murphy, CFA
Research Analyst
BofAS
johnj.murphy@bofa.com

Ming Hsun Lee, CFA >>
Research Analyst
Merrill Lynch (Hong Kong)
minghsun.lee@bofa.com

Joon-Ho Lee >>
Research Analyst
Merrill Lynch (Seoul)
joonho.lee@bofa.com

KJ Hwang >>
Research Analyst
Merrill Lynch (Seoul)
kj.hwang@bofa.com

Samuel Bruce >>
Research Analyst
MLI (UK)
samuel.bruce@bofa.com

James De Chastelain >>
Research Analyst
MLI (UK)
james.de_chastelain@bofa.com

Jargon buster

M/S = market share

(B)EV = (Battery) electric vehicle

PHEV = plug-in hybrid EV

xEV = PHEVs and BEVs

HEV: Hybrid EV

LV(P) = light vehicle (production)

OEM = original equipment manufacturer

NMC = Nickel Manganese Cobalt

LFP = lithium iron phosphate battery

M/S: Market share

PC: passenger cars

CV: commercial vehicles

NA = North America; APAC: Asia-Pacific

STLA = Stellantis; TSLA: Tesla; MBG: Mercedes

Benz Group

Global BEV sales and market share (I)

Exhibit 1: Global EV volumes by OEMs (sorted by highest sales in the latest month)

Jan-24: the market leaders (Tesla, BYD, VW) lost market share; OEMs from the “second row”, mainly from China, caught up

BEV	2022	2023	3Q 22	4Q 22	1Q 23	2Q 23	3Q 23	4Q 23	Oct-23	Nov-23	Dec-23	Jan-24
Global unit sales	7,687,900	10,012,752	2,086,402	2,442,850	1,878,777	2,405,541	2,670,844	3,057,590	924,319	1,009,742	1,123,529	698,821
Tesla Inc.	1,314,470	1,808,540	343,893	405,320	422,742	466,012	435,176	484,610	114,991	174,382	195,237	116,670
BYD	913,992	1,571,448	258,103	329,366	264,257	352,589	432,979	521,623	168,193	169,629	183,801	111,617
VW Group	578,397	758,323	151,283	208,462	137,271	179,796	206,516	234,740	72,749	76,570	85,421	47,757
Geely Auto Group	275,576	420,397	87,052	102,999	74,732	99,228	112,743	133,694	44,057	46,451	43,186	41,226
Wuling	455,836	430,114	115,095	121,801	77,634	97,469	101,105	153,906	45,889	48,889	59,128	30,001
BMW Group	219,533	378,729	51,026	89,314	65,506	90,094	94,259	128,870	36,357	41,241	51,272	27,668
Changan Automobile Group	201,589	219,163	50,053	80,493	46,162	44,482	55,992	72,527	23,072	23,593	25,862	26,630
GAC	288,072	499,495	87,234	96,908	82,917	138,703	152,098	125,777	41,953	38,700	45,124	22,751
SAIC	203,190	293,832	48,441	66,622	53,696	67,621	74,489	98,026	26,893	32,194	38,939	22,034
Stellantis	301,623	340,942	70,228	89,626	75,188	95,192	93,298	77,264	24,945	24,355	27,964	18,913
Mercedes-Benz Group	153,805	247,869	35,682	52,616	45,762	61,160	66,801	74,146	22,100	25,603	26,443	18,662
GM	112,815	211,048	38,950	36,197	31,556	40,282	60,204	79,006	23,855	28,686	26,465	18,055
Dongfeng Motor	222,854	115,584	68,624	67,405	21,094	30,848	32,575	31,067	9,452	9,061	12,554	14,478
Geely-Volvo Car Group	117,973	170,288	21,548	52,930	40,561	47,190	38,696	43,841	13,853	14,694	15,294	13,014
Kia	161,742	177,617	40,770	33,827	37,925	43,055	50,035	46,602	15,734	14,910	15,958	11,724
Hozon Auto	149,285	115,421	46,744	39,021	23,073	32,748	30,487	29,113	10,083	10,952	8,078	11,607
Hyundai Motor	212,189	241,019	51,731	58,144	50,944	66,627	67,236	56,212	19,900	18,576	17,736	10,532
NIO Inc.	124,704	162,767	32,342	40,515	31,379	25,499	55,467	50,422	16,077	16,167	18,178	10,182
Chery Automobile	257,084	124,246	78,550	58,578	18,697	27,357	30,165	48,027	11,948	15,513	20,566	10,110
FAW	62,787	106,210	24,209	22,380	13,062	27,403	31,047	34,698	11,590	10,750	12,358	10,049
Renault	161,158	160,158	38,133	55,637	38,134	37,666	39,829	44,529	15,231	14,227	15,071	9,014
Market share												
Tesla Inc.	17.1%	18.1%	16.5%	16.6%	22.5%	19.4%	16.3%	15.8%	12.4%	17.3%	17.4%	16.7%
BYD	11.9%	15.7%	12.4%	13.5%	14.1%	14.7%	16.2%	17.1%	18.2%	16.8%	16.4%	16.0%
VW Group	7.5%	7.6%	7.3%	8.5%	7.3%	7.5%	7.7%	7.7%	7.9%	7.6%	7.6%	6.8%
Geely Auto Group	3.6%	4.2%	4.2%	4.2%	4.0%	4.1%	4.2%	4.4%	4.8%	4.6%	3.8%	5.9%
Wuling	5.9%	4.3%	5.5%	5.0%	4.1%	4.1%	3.8%	5.0%	5.0%	4.8%	5.3%	4.3%
BMW Group	2.9%	3.8%	2.4%	3.7%	3.5%	3.7%	3.5%	4.2%	3.9%	4.1%	4.6%	4.0%
Changan Automobile Group	2.6%	2.2%	2.4%	3.3%	2.5%	1.8%	2.1%	2.4%	2.5%	2.3%	2.3%	3.8%
GAC	3.7%	5.0%	4.2%	4.0%	4.4%	5.8%	5.7%	4.1%	4.5%	3.8%	4.0%	3.3%
SAIC	2.6%	2.9%	2.3%	2.7%	2.9%	2.8%	2.8%	3.2%	2.9%	3.2%	3.5%	3.2%
Stellantis	3.9%	3.4%	3.4%	3.7%	4.0%	4.0%	3.5%	2.5%	2.7%	2.4%	2.5%	2.7%
Mercedes-Benz Group	2.0%	2.5%	1.7%	2.2%	2.4%	2.5%	2.5%	2.4%	2.4%	2.5%	2.4%	2.7%
GM	1.5%	2.1%	1.9%	1.5%	1.7%	1.7%	2.3%	2.6%	2.6%	2.8%	2.4%	2.6%
Dongfeng Motor	2.9%	1.2%	3.3%	2.8%	1.1%	1.3%	1.2%	1.0%	1.0%	0.9%	1.1%	2.1%
Geely-Volvo Car Group	1.5%	1.7%	1.0%	2.2%	2.2%	2.0%	1.4%	1.4%	1.5%	1.5%	1.4%	1.9%
Kia	2.1%	1.8%	2.0%	1.4%	2.0%	1.8%	1.9%	1.5%	1.7%	1.5%	1.4%	1.7%
Hozon Auto	1.9%	1.2%	2.2%	1.6%	1.2%	1.4%	1.1%	1.0%	1.1%	1.1%	0.7%	1.7%
Hyundai Motor	2.8%	2.4%	2.5%	2.4%	2.7%	2.8%	2.5%	1.8%	2.2%	1.8%	1.6%	1.5%
NIO Inc.	1.6%	1.6%	1.6%	1.7%	1.7%	1.1%	2.1%	1.6%	1.7%	1.6%	1.6%	1.5%
Chery Automobile	3.3%	1.2%	3.8%	2.4%	1.0%	1.1%	1.1%	1.6%	1.3%	1.5%	1.8%	1.4%
FAW	0.8%	1.1%	1.2%	0.9%	0.7%	1.1%	1.2%	1.1%	1.3%	1.1%	1.1%	1.4%
Renault	2.1%	1.6%	1.8%	2.3%	2.0%	1.6%	1.5%	1.5%	1.6%	1.4%	1.3%	1.3%
Penetration rate												
BYD	50.6%	58.1%	49.7%	50.9%	51.9%	54.6%	59.3%	63.5%	65.2%	64.5%	61.2%	53.9%
VW Group	8.4%	10.0%	8.4%	11.5%	8.1%	9.3%	10.7%	11.3%	11.6%	11.4%	11.1%	7.8%
Geely Auto Group	19.4%	27.0%	24.6%	23.4%	22.3%	27.7%	28.0%	29.0%	28.5%	27.5%	31.5%	21.8%
BMW Group	11.7%	18.4%	11.2%	17.2%	14.0%	17.5%	18.8%	22.4%	21.1%	21.5%	24.3%	16.2%
Changan Automobile Group	12.8%	13.1%	12.9%	16.8%	12.9%	11.4%	12.7%	15.0%	13.6%	16.0%	15.6%	12.2%
GAC	12.2%	20.9%	13.8%	15.4%	17.6%	21.0%	24.9%	19.3%	18.9%	19.0%	19.8%	12.7%
SAIC	5.8%	9.3%	5.0%	7.1%	8.4%	8.8%	9.0%	10.5%	9.4%	10.8%	11.1%	7.6%
Stellantis	6.8%	7.4%	6.6%	8.2%	6.5%	7.6%	8.3%	7.1%	6.9%	6.9%	7.5%	5.6%
Mercedes-Benz Group	9.3%	14.5%	8.6%	12.1%	11.2%	14.1%	15.3%	17.2%	17.0%	19.0%	16.0%	16.4%
GM	3.2%	5.6%	4.2%	3.7%	3.8%	4.0%	6.0%	8.6%	8.2%	9.5%	8.3%	7.2%
Dongfeng Motor	10.5%	6.8%	12.0%	13.8%	6.2%	7.7%	7.5%	5.8%	5.6%	5.6%	6.3%	8.2%
Geely-Volvo Car Group	29.8%	38.3%	24.1%	42.4%	39.5%	41.8%	37.4%	35.0%	35.6%	35.9%	33.5%	32.1%
Kia	7.1%	7.5%	7.0%	6.1%	6.4%	6.8%	8.5%	8.7%	8.5%	8.0%	9.7%	6.7%
Hyundai Motor	6.7%	7.2%	6.4%	7.0%	6.4%	7.8%	8.1%	6.6%	7.5%	6.2%	6.1%	4.3%

Source: BofA Global Research, EV volumes

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EV OEMs/Models in focus for investors

Exhibit 2: Unit sales of key BEV models and OEMs which we believe investors have a special focus on

Let us know if you have special requests, we have the data

Model	2021	2022	Q1-23	Q2-23	Q3-23	Oct-23	Nov-23	Dec-23	Q4-23	2023	Jan-24
VW Group	455,985	578,397	137,271	179,796	206,516	72,749	76,570	85,421	234,740	758,323	47,757
VW ID.3	76,329	77,866	23,211	25,867	40,352	15,724	16,253	17,861	49,838	139,268	9,627
VW ID.4	121,719	174,387	35,259	51,366	51,654	17,338	17,256	19,981	54,575	192,854	9,867
Audi Q4 e-tron	21,051	53,762	21,429	26,928	29,260	11,350	10,380	11,242	32,972	110,589	7,434
Cupra Born	3,412	32,633	8,045	9,770	13,414	4,176	3,913	5,067	13,156	44,385	1,448
Skoda Enyaq	44,438	53,946	12,144	19,013	23,283	8,565	9,228	8,466	26,259	80,699	4,939
Porsche	40,610	35,035	9,358	9,135	9,237	3,331	3,964	4,766	12,061	39,791	2,311
Porsche Taycan	40,610	35,035	9,358	9,135	9,237	3,331	3,964	4,766	12,061	39,791	2,311
Mercedes-Benz Group	101,605	153,805	45,762	61,160	66,801	22,100	25,603	26,443	74,146	247,869	18,662
Mercedes EQS	1,607	21,215	5,149	4,961	3,186	1,114	1,399	1,407	3,920	17,216	865
Mercedes EQE	0	13,852	7,347	10,090	9,436	3,396	3,924	3,854	11,174	38,047	2,839
Mercedes EQE SUV	0	0	0	4,964	6,853	2,942	3,221	3,560	9,723	21,540	3,550
Mercedes EQS SUV	0	943	3,064	4,269	3,231	1,163	1,341	1,521	4,025	14,589	966
BMW Group	104,715	219,533	65,506	90,094	94,259	36,357	41,241	51,272	128,870	378,729	27,668
BMW 3-Series L (i3)	0	17,793	10,130	11,797	12,966	5,763	6,141	5,786	17,690	52,583	4,745
BMW iX3	38,670	54,385	15,597	19,203	19,101	6,153	6,414	6,981	19,548	73,449	5,571
BMW i4	496	40,825	14,146	22,329	19,447	7,168	9,123	11,196	27,487	83,409	5,432
BMW iX	4,418	38,960	9,434	11,925	14,163	3,611	4,828	7,020	15,459	50,981	3,608
BMW i7	0	1,177	1,137	1,869	3,007	1,094	1,161	1,621	3,876	9,889	654
Stellantis	216,887	301,623	75,188	95,192	93,298	24,945	24,355	27,964	77,264	340,942	18,913
Fiat 500	44,733	67,012	14,145	18,587	17,374	5,139	4,688	6,742	16,569	66,675	3,037
Peugeot e-208	44,624	49,283	13,816	13,870	14,553	3,136	3,232	2,535	8,903	51,142	3,516
Renault Group	142,047	161,083	41,458	39,488	42,449	16,235	15,221	15,816	47,272	170,667	9,241
Renault Megane	45	33,151	11,079	11,947	11,252	4,527	4,298	3,914	12,739	47,017	2,759
Dacia Spring	27,309	49,035	14,353	12,851	16,937	6,193	5,518	5,437	17,148	61,289	3,571
Hyundai Motor	245,670	373,931	88,869	109,682	117,271	35,634	33,486	33,694	102,814	418,636	22,256
Hyundai Ioniq 5	45,757	99,636	21,618	26,723	28,576	8,930	8,468	7,692	25,090	102,007	4,170
Kia EV6	19,095	78,706	16,484	22,784	24,205	6,667	5,430	4,727	16,824	80,297	4,044
Toyota Motor Corp.	18,942	25,304	19,674	29,303	28,963	9,090	9,258	8,092	26,440	104,380	7,305
Toyota BZ4X	0	8,333	12,911	13,398	11,838	3,288	3,197	3,394	9,879	48,026	3,690
GM	504,420	568,651	109,190	137,751	161,309	69,744	77,575	85,593	232,912	641,162	48,056
Chevrolet Bolt EUV	3,851	32,533	15,307	12,537	13,418	4,358	3,780	3,389	11,527	52,789	2,973
Ford	55,848	105,619	19,051	25,668	35,542	11,363	13,213	14,820	39,396	119,657	7,733
Ford F-150 Lightning	76	15,627	4,732	5,294	5,040	4,361	5,048	4,553	13,962	29,028	3,104
Tesla Inc.	936,310	1,314,470	422,742	466,012	435,176	114,991	174,382	195,237	484,610	1,808,540	116,670
Tesla Model 3	500,386	476,470	131,936	147,443	106,383	32,013	54,664	56,912	143,589	529,351	35,442
Tesla Model Y	410,982	771,297	280,101	299,275	312,772	78,252	112,659	128,366	319,277	1,211,425	76,233
Tesla Cybertruck	0	0	0	0	0	0	10	25	35	35	300
Rivian Automotive	938	20,342	8,066	13,192	16,230	4,569	4,755	5,231	14,555	52,043	4,872
Rivian R1T	913	16,074	3,893	4,466	3,481	1,036	1,137	1,303	3,476	15,316	1,136
Lucid Motors	125	4,477	1,462	1,511	1,551	514	537	574	1,625	6,149	714
Xpeng	98,701	122,825	18,261	23,252	40,396	20,018	20,124	20,105	60,247	142,156	8,707
Xpeng P7	60,607	59,441	6,370	13,716	14,080	3,989	3,130	4,291	11,410	45,576	1,973
NIO Inc.	93,482	124,704	31,379	25,499	55,467	16,077	16,167	18,178	50,422	162,767	10,182
NIO et5	0	11,813	18,806	12,762	16,560	4,675	5,233	5,558	15,466	63,594	3,574
NIO es6	42,235	41,958	4,573	5,999	27,508	5,688	5,700	6,977	18,365	56,445	3,974
Polestar	28,723	49,282	11,083	14,967	16,198	3,768	4,167	4,957	12,892	55,140	2,505
Polestar 2	28,723	49,282	11,083	14,967	16,198	3,768	4,167	4,916	12,851	55,099	2,319
BYD	327,267	913,955	264,257	352,589	432,979	168,193	169,629	183,801	521,623	1,571,448	111,617
BYD Yuan Plus / Atto-3	1	201,772	94,253	108,567	98,549	47,056	33,059	37,767	117,882	419,251	25,233
BYD Dolphin	29,590	205,248	70,567	88,002	91,339	32,863	41,290	30,468	104,621	354,529	23,388
BYD Seagull	0	0	0	32,360	97,854	37,837	44,603	50,525	132,965	263,179	26,171
Geely Auto Group	71,165	275,576	74,732	99,228	112,743	44,057	46,451	43,186	133,694	420,397	41,226
Geely Panda Mini	0	19	18,050	25,068	25,744	13,052	15,188	12,538	40,778	109,640	11,092
Zeekr X	0	0	0	2,750	9,925	2,654	4,714	2,345	9,713	22,388	731
Volvo	25,725	68,691	29,478	32,223	22,498	10,085	10,527	10,337	30,949	115,148	10,509
Volvo EX30	0	0	0	0	53	30	91	537	658	711	2,304

Source: BofA Global Research, EV volumes

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Global BEV sales and market share (II)

Exhibit 3: Global & US, Europe, China xEV volumes and penetration rate

Global xEV penetration fell in Jan-24 (vs Dec 23), particularly due to lower BEV sales in Europe and China

	2022	2023	4Q 22	1Q 23	2Q 23	3Q 23	4Q 23	Oct-23	Nov-23	Dec-23	Jan-24
BEV Units sales											
Europe	1,684,923	2,242,254	610,118	472,328	552,382	594,776	622,768	181,570	208,871	232,327	134,121
USA	790,985	1,163,042	242,802	253,874	284,660	304,993	319,515	99,990	101,167	118,358	87,028
China	4,663,436	5,705,668	1,409,921	968,019	1,339,644	1,543,621	1,854,384	561,130	609,904	683,350	406,115
Global	7,687,900	10,012,752	2,442,850	1,878,777	2,405,541	2,670,844	3,057,590	924,319	1,009,742	1,123,529	698,821
BEV Penetration Rate (%)											
Europe	13.1%	15.6%	17.8%	12.8%	14.4%	16.8%	18.8%	15.3%	19.4%	22.2%	13.2%
USA	5.7%	7.4%	6.7%	7.1%	6.9%	7.6%	8.2%	8.3%	8.1%	8.1%	8.0%
China	19.9%	21.9%	22.0%	18.4%	21.1%	22.9%	24.3%	23.2%	24.7%	24.8%	20.0%
Global	9.9%	11.7%	11.8%	9.7%	11.3%	12.2%	13.4%	12.5%	13.5%	14.1%	10.1%
PHEV Units sales											
Europe	1,026,843	1,006,829	332,409	231,292	254,326	245,207	276,004	91,798	93,328	90,878	85,310
USA	189,284	287,964	57,397	55,817	74,208	77,845	80,094	23,319	26,238	30,537	24,391
China	1,517,400	2,707,177	541,797	440,607	607,423	724,695	934,452	279,040	292,998	362,414	284,877
Global	2,858,542	4,207,137	960,568	771,750	987,190	1,103,245	1,344,952	411,405	431,485	502,062	412,670
PHEV Penetration Rate (%)											
Europe	8.0%	7.0%	9.7%	6.3%	6.6%	6.9%	8.3%	7.7%	8.7%	8.7%	8.4%
USA	1.4%	1.8%	1.6%	1.6%	1.8%	1.9%	2.0%	1.9%	2.1%	2.1%	2.3%
China	6.5%	10.4%	8.4%	8.4%	9.6%	10.8%	12.2%	11.5%	11.9%	13.2%	14.0%
Global	3.7%	4.9%	4.6%	4.0%	4.6%	5.0%	5.9%	5.6%	5.8%	6.3%	5.9%
xEV Units sales											
Europe	2,711,766	3,249,083	942,527	703,620	806,708	839,983	898,772	273,368	302,199	323,205	219,431
USA	980,269	1,451,006	300,199	309,691	358,868	382,838	399,609	123,309	127,405	148,895	111,419
China	6,180,836	8,412,845	1,951,718	1,408,626	1,947,067	2,268,316	2,788,836	840,170	902,902	1,045,764	690,992
Global	10,546,442	14,219,889	3,403,418	2,650,527	3,392,731	3,774,089	4,402,542	1,335,724	1,441,227	1,625,591	1,111,491
xEV Penetration Rate (%)											
Europe	21.0%	22.6%	27.4%	19.0%	21.1%	23.8%	27.1%	23.0%	28.1%	30.8%	21.6%
USA	7.1%	9.3%	8.3%	8.6%	8.7%	9.6%	10.2%	10.2%	10.2%	10.2%	10.3%
China	26.4%	32.4%	30.4%	26.7%	30.7%	33.7%	36.5%	34.7%	36.5%	38.0%	34.0%
Global	13.6%	16.6%	16.4%	13.6%	15.9%	17.2%	19.2%	18.1%	19.2%	20.4%	16.0%

Source: BofA Global Research, EV-volumes

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Exhibit 4: Global BEV Sales by Model – Top selling models (sorted by highest sales in the latest month)

Tesla Models Y and 3 remains the top selling models and BYD Seagull maintains the third spot

Global BEV Sales by Model	2022	2023	4Q 22	1Q 23	2Q 23	3Q 23	4Q 23	Oct-23	Nov-23	Dec-23	Jan-24
Tesla Model Y	771,297	1,211,425	248,438	280,101	299,275	312,772	319,277	78,252	112,659	128,366	76,233
Tesla Model 3	476,470	529,351	139,702	131,936	147,443	106,383	143,589	32,013	54,664	56,912	35,442
BYD Seagull	0	263,179	0	0	32,360	97,854	132,965	37,837	44,603	50,525	26,171
BYD Yuan Plus / Atto-3	201,772	419,251	85,357	94,253	108,567	98,549	117,882	47,056	33,059	37,767	25,233
BYD Dolphin	205,248	354,529	77,678	70,567	88,002	91,339	104,621	32,863	41,290	30,468	23,388
Changan Lumin	60,273	139,193	36,786	24,033	28,890	41,569	44,701	15,538	16,679	12,484	16,047
Wuling HongGuang Mini	424,035	237,904	107,778	69,850	52,204	47,496	68,354	20,343	22,991	25,020	15,521
Wuling Bingo	0	169,157	0	3,312	41,178	48,048	76,619	23,744	24,024	28,851	13,622
Geely Panda Mini	19	109,640	19	18,050	25,068	25,744	40,778	13,052	15,188	12,538	11,092
Aion Y	119,725	235,861	38,502	31,068	60,966	71,589	72,238	27,140	22,381	22,717	10,263
VW ID.4	174,387	192,854	59,350	35,259	51,366	51,654	54,575	17,338	17,256	19,981	9,867
VW ID.3	77,866	139,268	31,401	23,211	25,867	40,352	49,838	15,724	16,253	17,861	9,627
Aion S / Aion S Plus	116,165	220,915	44,165	48,314	67,292	66,635	38,674	11,730	11,728	15,216	9,534
Audi Q4 e-tron	53,762	110,589	23,061	21,429	26,928	29,260	32,972	11,350	10,380	11,242	7,434
Hongqi E-QM5 / E-QM5 Plus	27,960	77,746	10,114	7,486	16,585	24,654	29,021	10,021	8,400	10,600	7,253
BYD Seal	51,200	79,999	42,001	19,573	22,519	15,940	21,967	7,348	3,835	10,784	6,478
MG 4 / Mulan	10,508	98,275	8,929	16,930	21,140	26,596	33,609	10,103	10,554	12,952	6,099
Volvo XC40	44,682	76,935	20,600	20,755	19,702	15,362	21,116	7,091	7,435	6,590	5,895
BMW iX3	54,385	73,449	19,436	15,597	19,203	19,101	19,548	6,153	6,414	6,981	5,571
Ora R3 / Good Cat	66,533	91,819	10,128	9,186	26,365	27,073	29,195	9,240	10,807	9,148	5,497
BMW i4	40,825	83,409	20,184	14,146	22,329	19,447	27,487	7,168	9,123	11,196	5,432

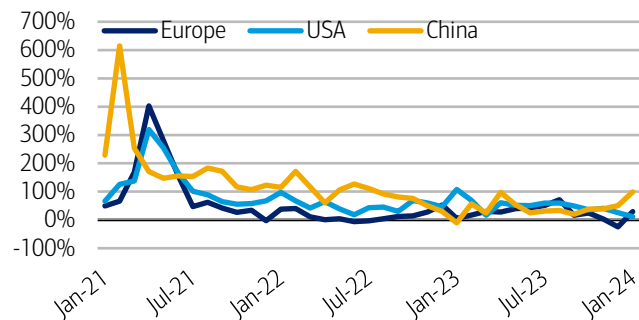
Source: BofA Global Research, EV-volumes

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Global EV sales data by region

Exhibit 5: Global BEV+PHEV Y/Y changes

Global xEV sales grew 66% y/y, but mainly due to a low comp base

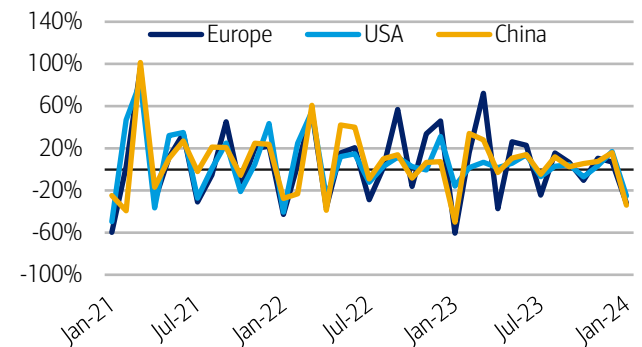


Source: EV-volumes, BofA Global Research

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Exhibit 6: Global BEV+PHEV M/M changes

Volumes were down across regions; China exhibits the largest decline (-34%)

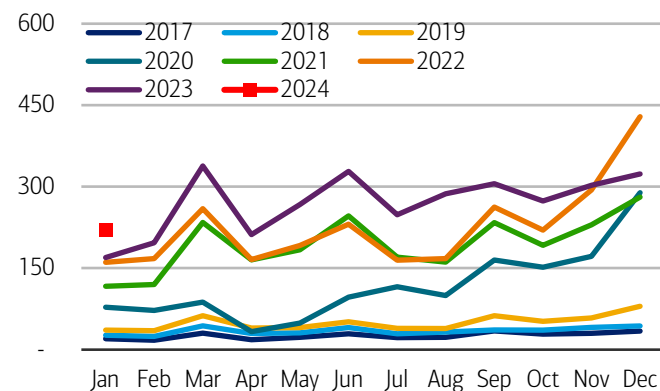


Source: EV-volumes, BofA Global Research

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Exhibit 7: Europe monthly (BEV+PHEV) sales volumes

EU xEV sales increased by c30% y/y to 219k units

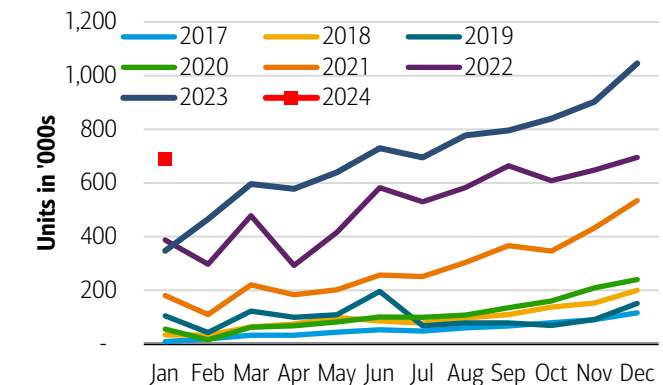


Source: EV-volumes, BofA Global Research

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Exhibit 8: China monthly (BEV+PHEV) sales volumes

China xEV sales almost doubled y/y to 691k units

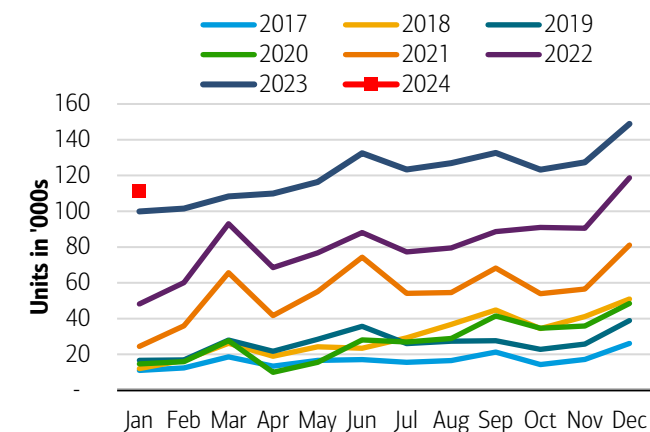


Source: EV-volumes, BofA Global Research

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Exhibit 9: US monthly (BEV+PHEV) sales volumes

US xEV sales increased by c11% y/y to 111k units

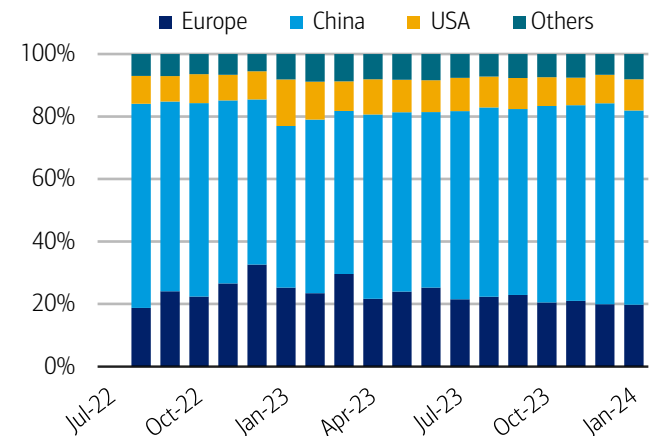


Source: EV-volumes, BofA Global Research

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Exhibit 10: Global BEV+PHEV sales contribution by regions

US gained 0.8ppts of market share, while China lost 2.1ppts in Jan m/m



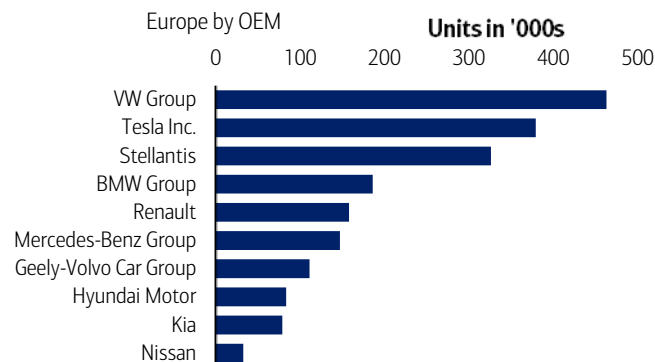
Source: EV-volumes, BofA Global Research

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Top-10 BEV OEMs models sales by regions in 2023

Exhibit 11: EU Top-10 BEV sales OEMs YTD (Units in '000s)

VW remains market leader in Europe, but the competition is increasing

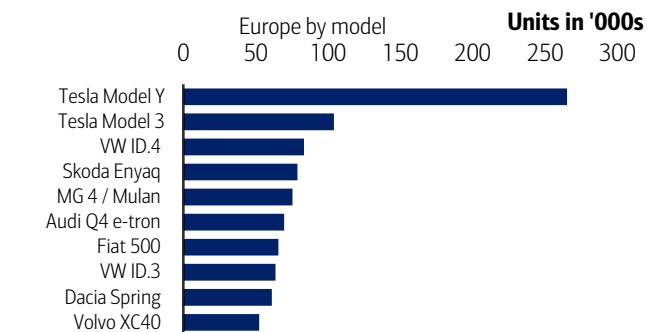


Source: EV-volumes, BofA Global Research

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Exhibit 12: EU Top-10 sales models YTD (Units in '000s)

The Model Y dominates the market, but the rest of the market remains competitive

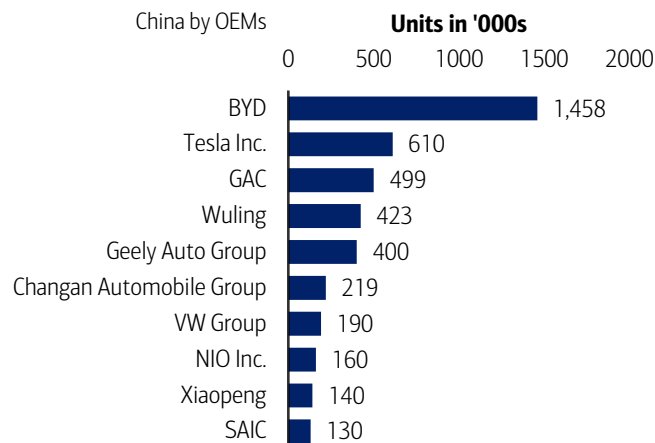


Source: EV-volumes, BofA Global Research

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Exhibit 13: China Top-10 BEV sales OEMs YTD (Units in '000s)

BYD is the no 1 OEM by sales in China, with VW reaching just 7th

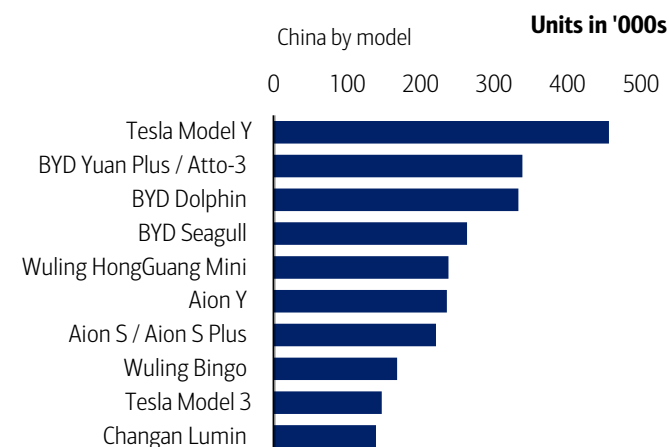


Source: EV-volumes, BofA Global Research

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Exhibit 14: China Top-10 sales models YTD (Units in '000s)

The Model Y still leads in China, with no EU OEM models in the top 10

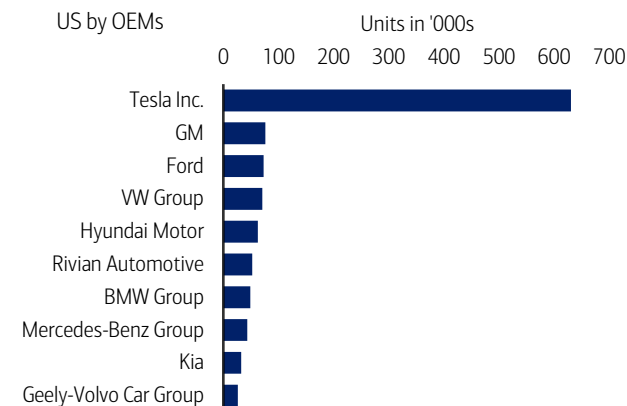


Source: EV-volumes, BofA Global Research

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Exhibit 15: US Top-10 sales OEMs YTD (Units in '000s)

Tesla is by far the largest BEV player in the US

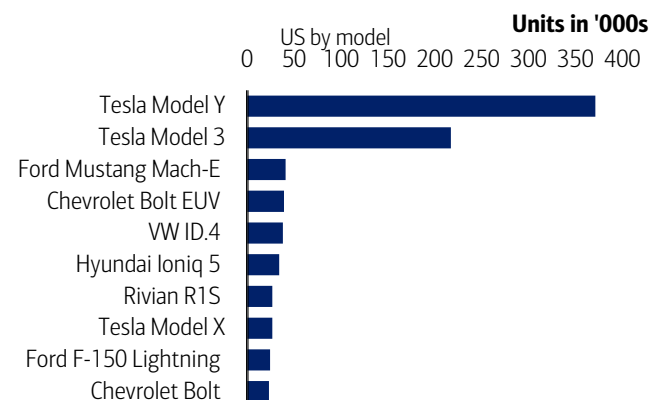


Source: EV-volumes, BofA Global Research

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Exhibit 16: US Top-10 sales models YTD (Units in '000s)

Tesla's models dominate the market, with the premium model X also breaching the top 10 in the US



Source: EV-volumes, BofA Global Research

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BEV production vs sales tracker

The only OEMs which have continued to gain significant global BEV market share in FY 23 have been Tesla & BYD. In contrast, most legacy OEMs have high-flying BEV sales plans and aim for significant BEV sales penetration increases but seem to have problems to match these targets. For example, Mercedes, VW and Ford have reduced their BEV targets recently. We think that BEV sales have performed worse than expected for most legacy OEMs in FY 2023. Renault and VW seem to have reduced inventories in H2 23. Most other OEMs have restocked. The data from S&P (see below) says that re-stocking was most significant at Hyundai Motors, Volvo Cars (probably related to the ramp-up of the EX30). Ford and Mercedes (MBG).

Exhibit 17: EV sales & production since Q1 2022

TSLA and BYD 's production closely precedes sales while Volvo Cars, Ford, Mercedes & Hyundai appear to have produced too many EVs

OEM		Q1-22	Q2-22	Q3-22	Q4-22	2022	Q1-23	Q2-23	Q3-23	Q4-23	2023
BMW	Production	40,282	58,292	62,699	90,430	251,703	83,993	96,569	106,792	131,083	418,437
	Sales	37,372	41,821	50,726	89,012	218,931	65,206	89,782	93,939	128,681	377,608
	Delta prod/sales	2,910	16,471	11,973	1,418	32,772	18,787	6,787	12,853	2,402	40,829
	as % sales	7%	28%	19%	2%	13%	22%	7%	12%	2%	10%
BYD	Production	147,921	182,477	262,803	326,603	919,804	272,179	368,885	440,820	514,115	1,595,999
	Sales	144,439	182,088	258,105	329,367	913,999	264,257	352,589	432,979	521,422	1,571,247
	Delta prod/sales	3,482	389	4,698	-2,764	5,805	7,922	16,296	7,841	-7,307	24,752
	as % sales	2%	0%	2%	-1%	1%	3%	4%	2%	-1%	2%
Ford	Production	24,618	27,396	34,415	39,989	126,418	25,677	55,063	47,271	40,900	168,911
	Sales	17,462	24,477	29,376	34,272	105,587	18,501	24,659	33,829	37,192	114,181
	Delta prod/sales	7,156	2,919	5,039	5,717	20,831	7,176	30,404	13,442	3,708	54,730
	as % sales	29%	11%	15%	14%	16%	28%	55%	28%	9%	32%
Hyundai Motors	Production	85,497	83,850	90,935	110,567	370,849	128,543	140,389	114,648	127,973	511,553
	Sales	91,340	98,119	91,601	91,233	372,293	88,586	109,492	116,981	102,513	417,572
	Delta prod/sales	-5,843	-14,269	-666	19,334	-1,444	39,957	30,897	-2,333	25,460	93,981
	as % sales	-7%	-17%	-1%	17%	0%	31%	22%	-2%	20%	18%
MBG	Production	40,881	36,620	51,354	77,847	206,702	98,811	97,703	78,585	85,874	360,973
	Sales	31,997	33,510	36,388	61,170	163,065	45,762	61,160	66,801	73,928	247,651
	Delta prod/sales	8,884	3,110	14,966	16,677	43,637	53,049	36,543	11,784	11,946	113,322
	as % sales	22%	8%	29%	21%	21%	54%	37%	15%	14%	31%
STLA	Production	61,225	73,460	68,620	84,120	287,425	90,820	92,610	79,915	85,831	349,176
	Sales	62,116	79,653	70,228	89,605	301,602	75,193	95,202	93,286	77,360	341,041
	Delta prod/sales	-891	-6,193	-1,608	-5,485	-14,177	15,627	-2,592	-13,371	8,471	8,135
	as % sales	-1%	-8%	-2%	-7%	-5%	17%	-3%	-17%	10%	2%
TSLA	Production	305,407	258,580	365,923	439,702	1,369,612	440,808	479,700	430,488	494,989	1,845,985
	Sales	310,173	255,084	343,893	405,317	1,314,467	422,742	466,012	435,176	484,722	1,808,652
	Delta prod/sales	-4,766	3,496	22,030	34,385	55,145	18,066	13,688	-4,688	10,267	37,333
	as % sales	-2%	1%	6%	8%	4%	4%	3%	-1%	2%	2%
VW Group	Production	95,486	148,406	165,362	208,638	617,892	221,117	216,182	185,935	188,090	811,324
	Sales	99,472	119,184	151,283	208,462	578,401	137,262	179,751	206,456	234,584	758,053
	Delta prod/sales	-3,986	29,222	14,079	176	39,491	83,855	36,431	-20,521	-46,494	53,271
	as % sales	-4%	20%	9%	0%	6%	38%	17%	-11%	-25%	7%
RNO	Production	27,081	44,004	53,150	57,093	181,328	44,326	47,298	33,023	31,342	155,989
	Sales	29,770	37,618	38,133	55,637	161,158	38,143	37,676	39,840	44,543	160,202
	Delta prod/sales	-2,689	6,386	15,017	1,456	20,170	6,183	9,622	-6,817	-13,201	-4,213
	as % sales	-10%	15%	28%	3%	11%	14%	20%	-21%	-42%	-3%
Volvo Cars	Production	24,792	22,844	30,901	50,341	128,878	45,195	44,322	38,612	58,646	186,775
	Sales	21,101	22,394	21,548	52,928	117,971	40,556	47,180	38,678	43,841	170,255
	Delta prod/sales	3,691	450	9,353	-2,587	10,907	4,639	-2,858	-66	14,805	16,520
	as % sales	15%	2%	30%	-5%	8%	10%	-6%	0%	25%	9%

Source: BofA Global Research, EV Volumes, S&P Global production; * Hyundai Motor = Hyundai & Kia brand

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Europe: BEV + PHEV sales

Exhibit 18: Europe BEV sales by OEMs (units)

VW is the BEV market leader in Europe followed by Tesla. In Jan 24, STLA, MBG, Kia and Volvo gained the most share to the expense of VW, BMW & Tesla

BEV unit sales	2021	2022	2023	4Q22	1Q23	2Q23	3Q23	4Q23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24
EU OEMs														
VW Group	310,208	357,910	462,806	143,537	94,449	118,443	122,663	127,251	45,231	37,931	39,495	42,459	45,297	23,102
Stellantis	194,689	284,703	325,885	83,926	72,471	90,479	90,155	72,780	31,832	34,002	23,573	22,659	26,548	17,910
BMW Group	76,082	131,297	185,878	47,596	30,368	41,670	45,925	67,915	16,746	15,255	18,733	20,957	28,225	11,936
Renault	139,482	156,575	157,731	54,727	37,459	37,240	39,283	43,749	14,147	12,179	15,045	14,026	14,678	8,559
Mercedes-Benz Group	89,283	111,712	146,965	39,081	29,406	33,924	41,927	41,708	13,120	17,000	12,545	14,787	14,376	10,141
US OEMs														
Tesla Inc.	170,115	233,059	378,981	93,743	94,609	93,249	94,948	96,175	36,918	39,077	19,127	37,400	39,648	18,468
Ford	23,417	29,175	31,445	9,745	5,771	8,092	9,200	8,382	2,957	3,943	2,835	2,725	2,822	1,627
Asian OEMs														
Hyundai Motor	74,115	86,637	83,219	24,939	19,186	20,631	23,544	19,858	9,939	6,086	6,224	6,645	6,989	5,154
Kia	62,778	72,649	78,705	15,702	15,471	19,221	24,093	19,920	9,005	8,013	6,823	7,313	5,784	5,549
Nissan	41,974	35,974	32,508	13,734	7,582	7,246	8,654	9,026	2,693	3,878	3,103	2,660	3,263	2,879
Toyota Motor Corp.	8,836	13,508	31,145	5,707	7,115	8,058	7,957	8,015	3,126	2,536	2,391	2,327	3,297	3,043
Honda Motor	3,477	2,120	1,926	386	215	223	642	846	309	277	325	187	334	380
Others														
Geely-Volvo Car Group	35,780	80,305	110,904	41,368	27,277	29,440	24,327	29,860	7,851	9,289	9,312	9,890	10,658	9,533
Total BEV	1,283,322	1,684,923	2,242,254	610,118	472,328	552,382	594,776	622,768	217,277	211,365	181,570	208,871	232,327	134,121
EU Market Share (%)														
EU OEMs														
VW Group	24.2%	21.2%	20.6%	23.5%	20.0%	21.4%	20.6%	20.4%	20.8%	17.9%	21.8%	20.3%	19.5%	17.2%
Stellantis	15.2%	16.9%	14.5%	13.8%	15.3%	16.4%	15.2%	11.7%	14.7%	16.1%	13.0%	10.8%	11.4%	13.4%
BMW Group	5.9%	7.8%	8.3%	7.8%	6.4%	7.5%	7.7%	10.9%	7.7%	7.2%	10.3%	10.0%	12.1%	8.9%
Renault	10.9%	9.3%	7.0%	9.0%	7.9%	6.7%	6.6%	7.0%	6.5%	5.8%	8.3%	6.7%	6.3%	6.4%
Mercedes-Benz Group	7.0%	6.6%	6.6%	6.4%	6.2%	6.1%	7.0%	6.7%	6.0%	8.0%	6.9%	7.1%	6.2%	7.6%
US OEMs														
Tesla Inc.	13.3%	13.8%	16.9%	15.4%	20.0%	16.9%	16.0%	15.4%	17.0%	18.5%	10.5%	17.9%	17.1%	13.8%
Ford	1.8%	1.7%	1.4%	1.6%	1.2%	1.5%	1.5%	1.3%	1.4%	1.9%	1.6%	1.3%	1.2%	1.2%
Asian OEMs														
Hyundai Motor	5.8%	5.1%	3.7%	4.1%	4.1%	3.7%	4.0%	3.2%	4.6%	2.9%	3.4%	3.2%	3.0%	3.8%
Kia	4.9%	4.3%	3.5%	2.6%	3.3%	3.5%	4.1%	3.2%	4.1%	3.8%	3.8%	3.5%	2.5%	4.1%
Nissan	3.3%	2.1%	1.4%	2.3%	1.6%	1.3%	1.5%	1.4%	1.2%	1.8%	1.7%	1.3%	1.4%	2.1%
Toyota Motor Corp.	0.7%	0.8%	1.4%	0.9%	1.5%	1.5%	1.3%	1.3%	1.4%	1.2%	1.3%	1.1%	1.4%	2.3%
Honda Motor	0.3%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.3%
Others														
Geely-Volvo Car Group	2.8%	4.8%	4.9%	6.8%	5.8%	5.3%	4.1%	4.8%	3.6%	4.4%	5.1%	4.7%	4.6%	7.1%

Source: EV-volumes, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 19: Europe Top 15 BEV sales by model (sorted by highest sales in the latest month)

Tesla Model 3/Y dominate the EU market as well, followed by the Audi Q4 e-tron, Skoda Enyaq and Volvo XC40

Europe unit sales	Q3 22	Q4 22	Q1 23	Q2 23	Q3 23	Q4 23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	2022	2023
Tesla Model Y	38,409	54,734	72,555	66,048	70,124	56,297	23,575	34,376	11,577	19,124	25,596	11,720	111,757	265,024
Tesla Model 3	15,132	35,750	19,784	23,342	23,110	37,747	13,005	3,698	7,077	17,523	13,147	6,510	58,469	103,983
Audi Q4 e-tron	8,676	15,492	15,419	16,748	16,961	20,401	5,442	6,866	7,764	7,121	5,516	4,984	31,625	69,529
Skoda Enyaq	14,205	16,190	11,735	18,519	22,760	25,733	8,137	7,396	8,455	8,901	8,377	4,838	43,655	78,747
Volvo XC40	5,289	17,294	14,394	13,247	9,673	14,936	3,008	4,389	5,152	5,270	4,514	4,385	26,540	52,250
MG 4 / Mulan	757	6,703	12,767	18,590	20,679	23,232	6,735	7,507	6,950	6,716	9,566	3,772	7,460	75,268
BMW i4	5,240	12,672	7,661	12,538	10,268	19,507	3,846	2,985	5,308	6,193	8,006	3,641	23,120	49,974
Dacia Spring	11,709	17,405	14,282	12,752	16,880	17,069	5,997	4,876	6,170	5,492	5,407	3,544	39,810	60,983
Peugeot e-208	10,731	13,656	13,626	13,616	14,266	8,600	4,118	7,005	3,016	3,132	2,452	3,489	38,719	50,108
Fiat 500	14,137	19,379	13,992	18,291	17,061	16,202	5,854	6,105	5,066	4,604	6,532	2,948	52,758	65,546
Renault Megane	10,666	18,086	11,079	11,947	11,251	12,608	4,585	3,267	4,497	4,248	3,863	2,714	32,975	46,885
Audi Q8 e-tron	0	21	4,774	6,387	7,566	9,195	2,449	2,604	2,692	3,086	3,417	2,574	21	27,922
Hyundai Kona	9,934	11,414	8,296	9,585	10,328	8,141	4,350	2,768	2,275	2,767	3,099	2,516	31,280	36,350
BMW iX1	0	1,802	5,365	10,572	12,110	17,847	4,801	3,852	4,629	5,715	7,503	2,479	1,802	45,894
VW ID.4	17,448	27,405	16,252	25,569	23,065	18,352	8,465	5,902	5,503	5,722	7,127	2,276	57,507	83,238

Source: EV-volumes, BofA Global Research

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Exhibit 20: Europe PHEV sales by OEM (units)

EU started 2024 with weak PHEV sales– M/S winners in Jan include STLA, Jaguar Landrover and Kia over VW, MBG and SAIC

PHEV unit sales	2021	2022	2023	4Q22	1Q23	2Q23	3Q23	4Q23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24
EU OEMs														
VW Group	238,727	186,206	194,307	63,665	36,161	42,791	48,037	67,318	13,031	19,047	23,477	22,681	21,160	19,500
BMW Group	153,832	142,962	133,438	42,857	30,469	34,898	32,544	35,527	10,224	11,880	10,499	13,014	12,014	11,522
Mercedes-Benz Group	149,340	134,494	127,665	42,770	29,038	30,288	30,548	37,791	8,678	12,159	12,000	12,700	13,091	10,303
Stellantis	123,583	148,130	143,313	46,935	36,432	41,527	34,765	30,589	9,654	13,867	12,542	10,519	7,528	9,489
Tata-JLR	29,058	25,183	44,919	6,553	13,298	9,935	11,162	10,524	2,896	4,112	3,408	3,600	3,516	4,515
Renault	37,600	16,448	10,904	3,041	3,330	1,889	2,883	2,802	888	1,094	1,028	1,009	765	429
US OEMs														
Ford	55,116	58,907	54,953	24,910	12,973	14,195	14,858	12,927	4,428	5,457	4,344	4,153	4,430	3,700
Asian OEMs														
Kia	54,702	67,255	58,002	18,702	12,590	14,828	15,190	15,394	4,615	5,653	5,669	5,342	4,383	4,630
Toyota Motor Corp.	24,477	26,637	31,415	6,816	5,162	8,019	9,307	8,927	2,785	3,738	2,861	2,752	3,314	2,918
Hyundai Motor	27,445	36,920	30,311	10,421	7,045	8,608	7,290	7,368	2,059	2,506	2,547	2,481	2,340	2,426
SAIC	14,775	22,189	12,881	5,050	3,761	3,085	2,098	3,937	378	1,208	886	991	2,060	714
Others														
Geely-Volvo Car Group	115,380	89,298	96,252	29,843	23,538	27,017	21,608	24,089	5,422	7,167	6,699	8,180	9,210	7,190
TOTAL PHEV	1,057,414	1,026,843	1,006,829	332,409	231,292	254,326	245,207	276,004	69,300	94,044	91,798	93,328	90,878	85,310
Market Share														
EU OEMs														
VW Group	22.6%	18.1%	19.3%	19.2%	15.6%	16.8%	19.6%	24.4%	18.8%	20.3%	25.6%	24.3%	23.3%	22.9%
BMW Group	14.5%	13.9%	13.3%	12.9%	13.2%	13.7%	13.3%	12.9%	14.8%	12.6%	11.4%	13.9%	13.2%	13.5%
Mercedes-Benz Group	14.1%	13.1%	12.7%	12.9%	12.6%	11.9%	12.5%	13.7%	12.5%	12.9%	13.1%	13.6%	14.4%	12.1%
Stellantis	11.7%	14.4%	14.2%	14.1%	15.8%	16.3%	14.2%	11.1%	13.9%	14.7%	13.7%	11.3%	8.3%	11.1%
Tata-JLR	2.7%	2.5%	4.5%	2.0%	5.7%	3.9%	4.6%	3.8%	4.2%	4.4%	3.7%	3.9%	3.9%	5.3%
Renault	3.6%	1.6%	1.1%	0.9%	1.4%	0.7%	1.2%	1.0%	1.3%	1.2%	1.1%	1.1%	0.8%	0.5%
US OEMs														
Ford	5.2%	5.7%	5.5%	7.5%	5.6%	5.6%	6.1%	4.7%	6.4%	5.8%	4.7%	4.4%	4.9%	4.3%
Asian OEMs														
Kia	5.2%	6.5%	5.8%	5.6%	5.4%	5.8%	6.2%	5.6%	6.7%	6.0%	6.2%	5.7%	4.8%	5.4%
Toyota Motor Corp.	2.3%	2.6%	3.1%	2.1%	2.2%	3.2%	3.8%	3.2%	4.0%	4.0%	3.1%	2.9%	3.6%	3.4%
Hyundai Motor	2.6%	3.6%	3.0%	3.1%	3.0%	3.4%	3.0%	2.7%	3.0%	2.7%	2.8%	2.7%	2.6%	2.8%
SAIC	1.4%	2.2%	1.3%	1.5%	1.6%	1.2%	0.9%	1.4%	0.5%	1.3%	1.0%	1.1%	2.3%	0.8%
Others														
Geely-Volvo Car Group	10.9%	8.7%	9.6%	9.0%	10.2%	10.6%	8.8%	8.7%	7.8%	7.6%	7.3%	8.8%	10.1%	8.4%

Source: EV-volumes, BofA Global Research

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Exhibit 21: Europe xEV unit sales (sorted by highest sales in the latest month)

In Jan 24, VW, Tesla and BMW lost market share to STLA, MBG, Volvo and Kia

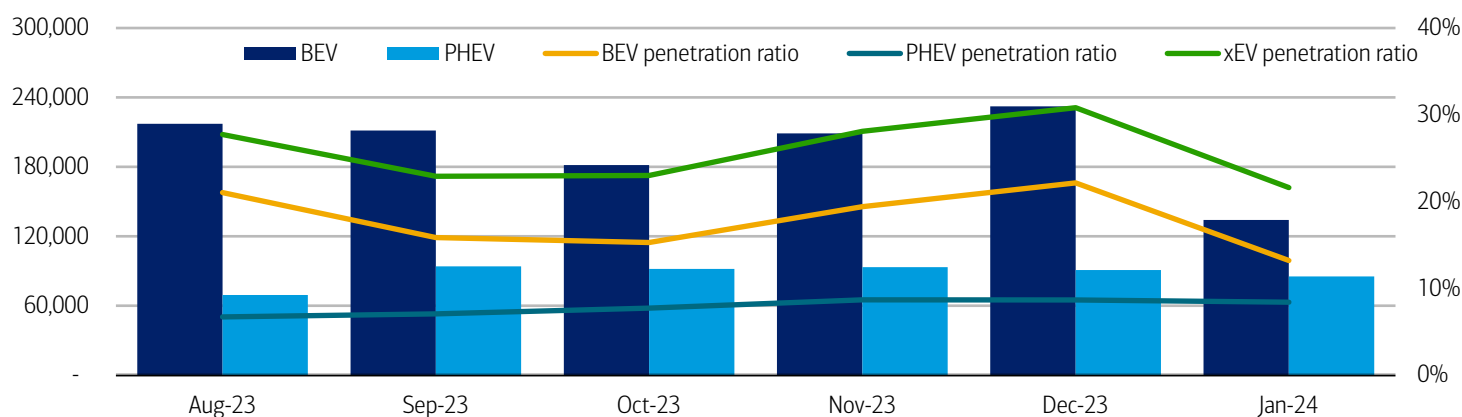
EUROPE xEV	2021	2022	2023	4Q22	1Q23	2Q23	3Q23	4Q23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24
VW Group	548,935	544,116	657,113	207,202	130,610	161,234	170,700	194,569	58,262	56,978	62,972	65,140	66,457	42,602
Stellantis	318,272	432,833	469,198	130,861	108,903	132,006	124,920	103,369	41,486	47,869	36,115	33,178	34,076	27,399
BMW Group	229,914	274,259	319,316	90,453	60,837	76,568	78,469	103,442	26,970	27,135	29,232	33,971	40,239	23,458
Mercedes-Benz Group	238,623	246,206	274,630	81,851	58,444	64,212	72,475	79,499	21,798	29,159	24,545	27,487	27,467	20,444
Tesla Inc.	170,115	233,059	378,981	93,743	94,609	93,249	94,948	96,175	36,918	39,077	19,127	37,400	39,648	18,468
Geely-Volvo Car Group	151,160	169,603	207,156	71,211	50,815	56,457	45,935	53,949	13,273	16,456	16,011	18,070	19,868	16,723
Kia	117,480	139,904	136,707	34,404	28,061	34,049	39,283	35,314	13,620	13,666	12,492	12,655	10,167	10,179
Renault	177,082	173,023	168,635	57,768	40,789	39,129	42,166	46,551	15,035	13,273	16,073	15,035	15,443	8,988
Hyundai Motor	101,560	123,557	113,530	35,360	26,231	29,239	30,834	27,226	11,998	8,592	8,771	9,126	9,329	7,580
Ford	78,533	88,082	86,398	34,655	18,744	22,287	24,058	21,309	7,385	9,400	7,179	6,878	7,252	5,327
Europe xEV	2,340,736	2,711,766	3,249,083	942,527	703,620	806,708	839,983	898,772	286,577	305,409	273,368	302,199	323,205	219,431
Market Share														
VW Group	23.5%	20.1%	20.2%	22.0%	18.6%	20.0%	20.3%	21.6%	20.3%	18.7%	23.0%	21.6%	20.6%	19.4%
Stellantis	13.6%	16.0%	14.4%	13.9%	15.5%	16.4%	14.9%	11.5%	14.5%	15.7%	13.2%	11.0%	10.5%	12.5%
BMW Group	9.8%	10.1%	9.8%	9.6%	8.6%	9.5%	9.3%	11.5%	9.4%	8.9%	10.7%	11.2%	12.4%	10.7%
Mercedes-Benz Group	10.2%	9.1%	8.5%	8.7%	8.3%	8.0%	8.6%	8.8%	7.6%	9.5%	9.0%	9.1%	8.5%	9.3%
Tesla Inc.	7.3%	8.6%	11.7%	9.9%	13.4%	11.6%	11.3%	10.7%	12.9%	12.8%	7.0%	12.4%	12.3%	8.4%
Geely-Volvo Car Group	6.5%	6.3%	6.4%	7.6%	7.2%	7.0%	5.5%	6.0%	4.6%	5.4%	5.9%	6.0%	6.1%	7.6%
Kia	5.0%	5.2%	4.2%	3.7%	4.0%	4.2%	4.7%	3.9%	4.8%	4.5%	4.6%	4.2%	3.1%	4.6%
Renault	7.6%	6.4%	5.2%	6.1%	5.8%	4.9%	5.0%	5.2%	5.2%	4.3%	5.9%	5.0%	4.8%	4.1%
Hyundai Motor	4.3%	4.6%	3.5%	3.8%	3.7%	3.6%	3.7%	3.0%	4.2%	2.8%	3.2%	3.0%	2.9%	3.5%
Ford	3.4%	3.2%	2.7%	3.7%	2.7%	2.8%	2.9%	2.4%	2.6%	3.1%	2.6%	2.3%	2.2%	2.4%
Penetration rate														
VW Group	18.6%	8.5%	19.8%	27.2%	15.9%	18.3%	21.2%	24.1%	24.2%	20.1%	24.5%	23.4%	24.3%	16.5%
Stellantis	13.4%	9.9%	22.0%	26.8%	18.9%	23.2%	24.7%	21.7%	28.5%	23.8%	20.0%	20.7%	25.1%	15.0%
BMW Group	26.8%	15.2%	35.0%	39.6%	29.1%	32.6%	36.7%	40.8%	41.9%	34.9%	38.5%	39.2%	44.4%	32.5%
Mercedes-Benz Group	35.1%	17.5%	39.0%	46.0%	33.1%	37.7%	42.9%	42.1%	45.2%	41.9%	43.5%	44.2%	39.1%	48.4%
Geely-Volvo Car Group	52.2%	30.4%	72.6%	86.9%	72.7%	76.8%	76.0%	66.1%	87.4%	68.1%	64.7%	68.4%	65.2%	64.2%
Kia	23.4%	12.1%	23.9%	29.5%	18.9%	21.8%	27.4%	28.4%	36.7%	24.0%	27.0%	28.9%	29.7%	22.8%
Renault	16.2%	7.1%	13.4%	19.6%	13.0%	11.5%	15.0%	14.7%	18.1%	13.0%	15.6%	14.7%	13.8%	9.5%
Hyundai Motor	19.7%	11.3%	21.2%	28.9%	19.6%	21.3%	23.3%	20.7%	30.4%	18.9%	20.3%	20.2%	21.8%	18.1%
Ford	15.0%	8.2%	16.7%	25.7%	13.5%	16.3%	19.0%	18.4%	21.3%	18.5%	17.4%	17.7%	20.5%	15.0%

Source: EV-volumes, BofA Global Research

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Exhibit 22: Europe BEV vs PHEV volumes (units) and penetration rate (rhs)

xEV penetration rates declined sequentially to 22% in Europe in January



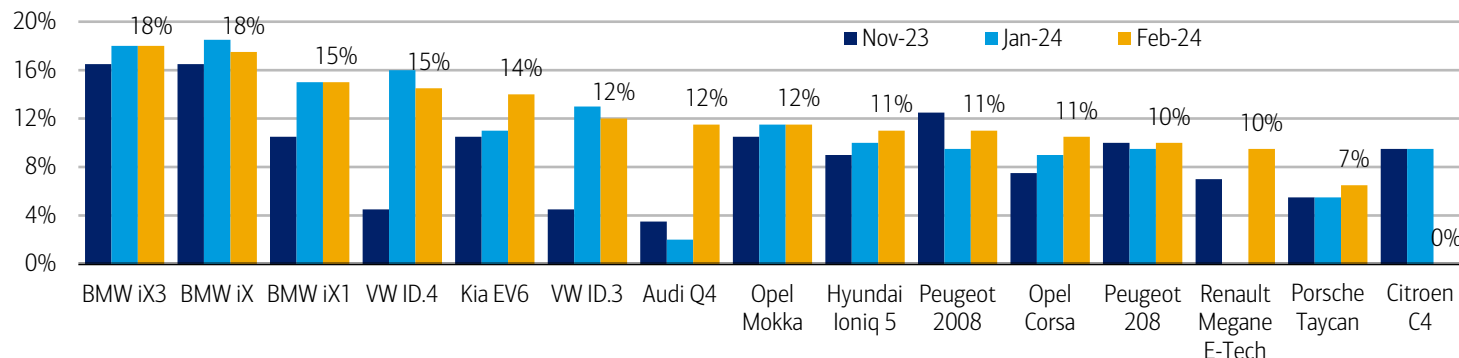
Source: EV-volumes, BofA Global Research

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EV pricing in Europe

Exhibit 23: Average incentives on BEVs in Europe (sorted by Feb-24)

Incentives trended higher recently, particularly for Kia EV6, Audi Q4, Hyundai Ioniq 5 and also for Peugeot and Opel models

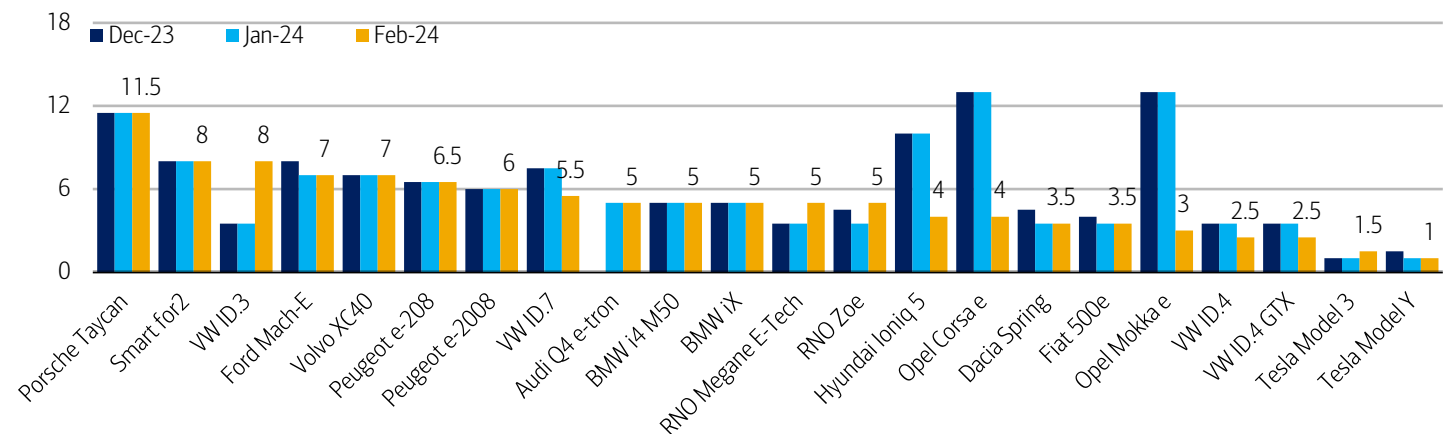


Source: BofA Global Research, MeinAuto.de, Note: 0% = 'Not available', MBC = Mercedes Benz Cars, *Models added in Aug so no historical

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Exhibit 24: Germany: Waiting period for new EV (months); sorted by Mar-24

Price discounts up, waiting times on average down. We are surprised to see that the VW ID.3 waiting times have increased. Production bottlenecks?

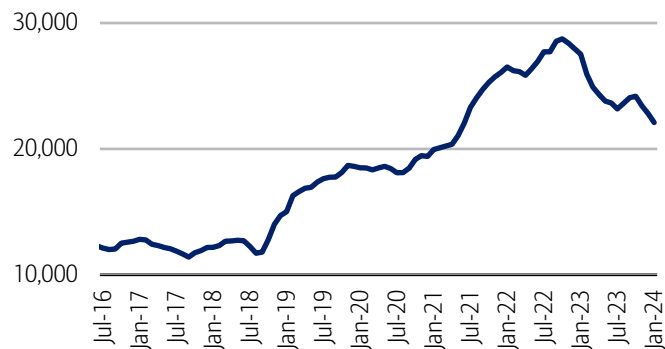


Source: BofA Global Research, carwow.de, Note: 0 = Temporary order stop

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Exhibit 25: Auto Trader Used Car Price Index for BEV (mass)

Volume BEV prices continue to drop in Jan, -3.1% m/m

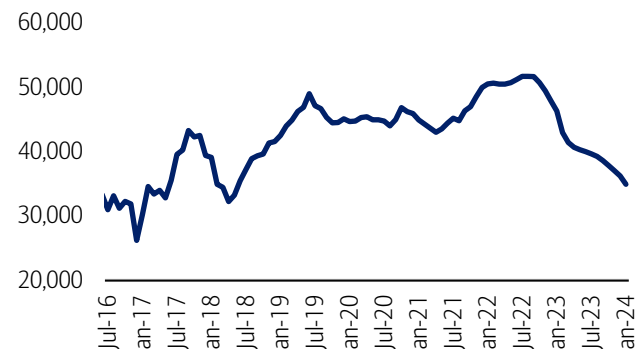


Source: BofA Global Research, Auto Trader. BEV brands included: Citroen, Dacia, Fiat, Ford, Honda, Hyundai, Jeep, Kia, MG, Mazda, Mitsubishi, Nissan, Peugeot, Renault, Seat, Skoda, Smart, Subaru, Suzuki, Toyota, Vauxhall and Volkswagen

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Exhibit 26: Auto Trader Used Car Price Index for BEV (premium)

Premium BEV prices fell for the 17th straight month in Jan (-3.6% m/m)



Source: BofA Global Research, Auto Trader. BEV brands included: Abarth, Alfa Romeo, Audi, BMW, DS Automobiles, Jaguar, Land Rover, Lexus, Mercedes-Benz, Mini, Tesla and Volvo

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EU EV model launch calendar

Exhibit 27: Expected start of production of new European EVs

New EVs' production in Europe is expected to accelerate from Q1 24e. If you need launch calendar by OEM, feel free to reach out, we have the data!

Quarter/Year	2023				2024				2025				2026		
Q1	Fiat	Ducato	HVAN	Van	Ford	Transit Custom	D	Van	Ford	Puma	B	SUV	Aston Martin	DB13	F SPORT
	Jeep	Avenger	B	SUV	Renault	Master	HVAN	Van	Ford	Transit Connect	C	Van	Volvo	ES60	D Car
	Opel	Astra	C	Car	Maserati	GranCabrio	E	SPORT	Kia	EV4	C	Car	Mercedes-Benz	EQC	D Car
					Maserati	GranTurismo	E	SPORT	Renault	4	B	SUV	Mercedes-Benz	EQS SUV	E SUV
					Maserati	Grecale	D	SUV	Maserati	MC20	F	SPORT	Alfa Romeo	Giulia	D Car
					Peugeot	3008	C	SUV	Land Rover	Range Rover Velar	D	SUV	Audi	R8	E SPORT
					Porsche	Macan	D	SUV	Skoda	Elroq	C	SUV	Cupra	Raval	B Car
Q2	BYD	Han	E	Car	Mini	Countryman	C	SUV	Nissan	Leaf	C	SUV	Hyundai	B-Hatch EV	B Car
	Kia	EV6	D	SUV	Ford	Explorer	C	SUV	Citroen	C5 Aircross	C	SUV	Hyundai	Ioniq 4	C Car
					Mercedes-Benz	EQG	E	SUV	Jaguar	XJ	E	Car	Nissan	Juke	B SUV
					Renault	5	B	Car					DS	DS7	C SUV
					Citroen	C3	B	Car					Ram	ProMaster City	D Van
					DS	DS4	C	Car					Volkswagen	ID.2	B Car
					Fiat	Panda	B	Car							
					Lancia	Ypsilon	B	Car							
					Peugeot	5008	C	SUV							
					Audi	Q6 e-tron	D	SUV							
Q3	BMW	i5	E	Car	Ford	Capri	C	SUV	Alpine	A390	C	SUV	BMW	i8	E Car
	Rolls-Royce	Spectre	F	Car	Nissan	Interstar	E	Van	Nissan	Micra	B	Car	Mini	Cooper	B Car
	Renault	Trafic	D	Van	Nissan	Interstar	HVAN	Van	Alfa Romeo	Stelvio	D	SUV	LEVC	TX	D Car
	Fiat	600	B	SUV	Alfa Romeo	Milano	B	SUV	Jeep	Compass	C	SUV	Lotus	Exige	D SPORT
	Peugeot	308	C	Car	Citroen	C3 Aircross	B	SUV	Land Rover	Defender Sport	C	SUV	Mercedes-Benz	EQA SUV	C SUV
	Volkswagen	ID.7	D	Car	DS	DS9	D	SUV					Nissan	Primastar	D Van
					Opel	Crossland	B	SUV					Lancia	Gamma	C SUV
					Opel	Grandland	C	SUV					Maserati	Levante	E SUV
					Peugeot	408	C	Car					Opel	Manta	D SUV
					Toyota	Proace Max	E	Van					Suzuki	A-MPV EV	A MPV
					Toyota	Proace Max	HVAN	Van					Skoda	7S	D SUV
					Audi	Q6 Sportback e-tron	D	SUV					Skoda	B-CUV EV	B SUV
					Volkswagen	Transporter	D	Van					Volkswagen	ID.2 X	B SUV
Q4	BMW	iX2	C	SUV	Ford	Transit Courier	B	Van	BMW	iX3	D	SUV	BMW	i3	D Car
	Mercedes-Benz	Sprinter	HVAN	Van	Mercedes-Benz	EQA	C	Car	Ferrari	E-Coupe EV	F	SPORT	BMW	iX4	D SUV
	Renault	Scenic	C	SUV	Alpine	A290	B	Car	Volvo	EX30	B	SUV	BYD	Dolphin	B Car
					Citroen	Jumper	E	Van	Volvo	EX60	D	SUV	Volvo	EX40	C SUV
					Opel	Movano	E	Van	Kia	EV2	B	SUV	Jaguar	E-CUV EV	E SUV
					Peugeot	Boxer	E	Van	Mercedes-Benz	AMG GT-4	E	SPORT	Tesla	C-CUV EV	C SUV
					Land Rover	Range Rover	E	SUV	Mercedes-Benz	EQB SUV	C	SUV	Audi	Q2 e-tron	C SUV
					Land Rover	Range Rover Sport	E	SUV	Mercedes-Benz	EQC SUV	D	SUV	Bentley	Bentayga	E SUV
					Audi	A6 e-tron	E	Car	Mitsubishi	C-CUV EV	C	SUV	Volkswagen	ID.3 X	C SUV
					Volkswagen	Caddy	C	Van	Maserati	Quattroporte	E	Car			
									Porsche	718	D	SPORT			
									Porsche	Cayenne	E	SUV			

Source: BofA Global Research, S&P

BofA GLOBAL RESEARCH



China BEV sales at a glance

Exhibit 28: China BEV unit sales (sorted by highest sales in the latest month)

BYD and Tesla lost 2.2ppts and 1.1ppts of market share, respectively, while VW and BMW each gained +0.6ppts m/s

China BEV unit sales	2021	2022	2023	4Q 22	1Q 23	2Q 23	3Q 23	4Q 23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24
BYD	323,267	896,199	1,458,063	317,135	245,557	330,501	403,995	478,010	133,356	140,450	155,649	154,677	167,684	90,370
Tesla Inc.	320,863	440,968	610,311	121,619	137,900	159,480	141,223	171,708	65,328	44,154	28,735	65,265	77,708	39,928
Geely Auto Group	76,298	268,455	399,707	100,229	71,125	95,583	106,377	126,622	35,647	35,151	41,817	44,136	40,669	38,606
Wuling	439,462	447,746	422,576	116,438	77,083	96,331	99,512	149,650	31,308	36,784	45,014	47,882	56,754	27,865
Changan Automobile Group	103,400	201,380	218,816	80,442	46,031	44,438	55,903	72,444	16,744	19,572	23,044	23,560	25,840	26,401
GAC	124,714	287,931	499,204	96,852	82,869	138,660	152,011	125,664	53,784	51,856	41,931	38,664	45,069	22,554
VW Group	96,307	157,163	190,205	43,004	21,606	40,739	54,857	73,003	14,837	21,429	23,372	23,282	26,349	18,157
Dongfeng Motor	94,208	221,476	112,511	66,343	20,595	30,093	31,860	29,963	10,098	12,307	9,155	8,667	12,141	14,107
SAIC	125,460	133,847	129,738	37,091	24,624	26,809	29,672	48,633	9,967	11,049	11,740	16,691	20,202	11,166
GM	34,028	64,412	116,979	16,290	7,624	19,747	34,215	55,393	8,152	13,483	15,339	21,401	18,653	10,791
NIO Inc.	93,402	123,500	160,336	40,055	31,044	24,993	54,664	49,635	20,057	15,277	15,664	15,959	18,012	10,055
Chery Automobile	105,622	256,242	123,499	58,509	18,599	27,217	29,950	47,733	9,329	12,149	11,793	15,439	20,501	10,049
FAW	41,652	60,578	105,548	21,519	12,859	27,312	30,897	34,480	8,527	10,989	11,523	10,683	12,274	9,979
BMW Group	23,671	47,359	102,289	24,706	20,328	25,643	23,799	32,519	9,334	8,972	9,729	10,783	12,007	9,857
Hozon Auto	70,228	148,760	102,459	38,946	20,570	29,295	27,143	25,451	10,752	10,003	9,131	9,716	6,604	9,555
Leap Motor	44,945	110,381	113,069	23,506	10,509	23,244	33,989	45,327	11,787	13,177	14,692	12,908	17,727	8,849
Xiaopeng	98,166	122,080	140,027	22,204	18,230	23,205	39,994	58,598	13,690	15,296	19,710	19,474	19,414	8,085
Great Wall Motors	136,610	99,915	90,588	15,778	11,980	27,138	23,537	27,933	7,214	9,296	9,396	10,378	8,159	4,905
BAIC	53,283	71,299	91,460	29,460	16,912	22,249	22,781	29,518	8,777	9,391	8,007	10,202	11,309	3,045
Mercedes-Benz	7,214	15,877	28,165	2,001	3,390	8,283	7,073	9,419	1,767	2,567	2,538	3,541	3,340	2,759
Toyota Motor Corp.	8,621	7,028	46,217	3,620	8,310	15,483	12,918	9,506	6,178	4,863	3,667	3,840	1,999	2,245
Market share														
BYD	11.7%	19.2%	25.6%	22.5%	25.4%	24.7%	26.2%	25.8%	25.0%	26.1%	27.7%	25.4%	24.5%	22.3%
Tesla Inc.	11.6%	9.5%	10.7%	8.6%	14.2%	11.9%	9.1%	9.3%	12.2%	8.2%	5.1%	10.7%	11.4%	9.8%
Geely Auto Group	2.8%	5.8%	7.0%	7.1%	7.3%	7.1%	6.9%	6.8%	6.7%	6.5%	7.5%	7.2%	6.0%	9.5%
Wuling	15.9%	9.6%	7.4%	8.3%	8.0%	7.2%	6.4%	8.1%	5.9%	6.8%	8.0%	7.9%	8.3%	6.9%
Changan Automobile Group	3.7%	4.3%	3.8%	5.7%	4.8%	3.3%	3.6%	3.9%	3.1%	3.6%	4.1%	3.9%	3.8%	6.5%
GAC	4.5%	6.2%	8.7%	6.9%	8.6%	10.4%	9.8%	6.8%	10.1%	9.6%	7.5%	6.3%	6.6%	5.6%
VW Group	3.5%	3.4%	3.3%	3.1%	2.2%	3.0%	3.6%	3.9%	2.8%	4.0%	4.2%	3.8%	3.9%	4.5%
Dongfeng Motor	3.4%	4.7%	2.0%	4.7%	2.1%	2.2%	2.1%	1.6%	1.9%	2.3%	1.6%	1.4%	1.8%	3.5%
SAIC	4.5%	2.9%	2.3%	2.6%	2.5%	2.0%	1.9%	2.6%	1.9%	2.1%	2.1%	2.7%	3.0%	2.7%
GM	1.2%	1.4%	2.1%	1.2%	0.8%	1.5%	2.2%	3.0%	1.5%	2.5%	2.7%	3.5%	2.7%	2.7%
NIO Inc.	3.4%	2.6%	2.8%	2.8%	3.2%	1.9%	3.5%	2.7%	3.8%	2.8%	2.8%	2.6%	2.6%	2.5%
Chery Automobile	3.8%	5.5%	2.2%	4.1%	1.9%	2.0%	1.9%	2.6%	1.7%	2.3%	2.1%	2.5%	3.0%	2.5%
FAW	1.5%	1.3%	1.8%	1.5%	1.3%	2.0%	2.0%	1.9%	1.6%	2.0%	2.1%	1.8%	1.8%	2.5%
BMW Group	0.9%	1.0%	1.8%	1.8%	2.1%	1.9%	1.5%	1.8%	1.7%	1.7%	1.7%	1.8%	1.8%	2.4%
Hozon Auto	2.5%	3.2%	1.8%	2.8%	2.1%	2.2%	1.8%	1.4%	2.0%	1.9%	1.6%	1.6%	1.0%	2.4%
Leap Motor	1.6%	2.4%	2.0%	1.7%	1.1%	1.7%	2.2%	2.4%	2.2%	2.4%	2.6%	2.1%	2.6%	2.2%
Xiaopeng	3.5%	2.6%	2.5%	1.6%	1.9%	1.7%	2.6%	3.2%	2.6%	2.8%	3.5%	3.2%	2.8%	2.0%
Great Wall Motors	4.9%	2.1%	1.6%	1.1%	1.2%	2.0%	1.5%	1.5%	1.4%	1.7%	1.7%	1.7%	1.2%	1.2%
BAIC	1.9%	1.5%	1.6%	2.1%	1.7%	1.7%	1.5%	1.6%	1.6%	1.7%	1.4%	1.7%	1.7%	0.7%

Source: EV-volumes, BofA Global Research

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Exhibit 29: China Top BEV sales by model (sorted by highest sales in the latest month)

Tesla is the only international OEM with a top-10 best-selling BEVs in China

China unit sales	Q3 22	Q4 22	Q1 23	Q2 23	Q3 23	Q4 23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	2022	2023
Tesla Model Y	86,130	96,202	94,647	109,285	116,177	136,285	51,117	41,428	26,353	49,877	60,055	29,912	241,317	456,394
BYD Seagull	0	0	0	32,360	97,853	132,964	34,841	35,011	37,836	44,603	50,525	26,171	0	263,177
BYD Yuan Plus / Atto-3	60,314	74,893	77,083	88,425	76,403	96,579	24,192	28,647	40,019	25,761	30,799	16,831	173,511	338,490
BYD Dolphin	68,817	77,343	70,048	87,311	87,028	88,568	31,096	24,282	28,353	35,246	24,969	16,386	175,006	332,955
Changan Lumin	21,620	36,786	24,033	28,890	41,538	44,684	11,788	14,488	15,533	16,671	12,480	16,041	60,273	139,145
Wuling HongGuang Mini	108,410	107,760	69,842	52,195	47,489	68,337	15,858	16,146	20,337	22,985	25,015	15,520	323,637	237,863
Wuling Bingo	0	0	3,312	41,178	48,048	75,226	13,892	19,606	23,744	24,024	27,458	11,746	0	167,764
Geely Panda Mini	0	19	18,050	25,068	25,744	40,778	8,832	10,221	13,052	15,188	12,538	11,092	19	109,640
Aion Y	36,950	38,486	31,055	60,954	71,543	72,165	26,713	26,969	27,132	22,355	22,678	10,079	100,787	235,717
Tesla Model 3	35,582	25,417	42,782	47,391	23,447	33,290	13,577	2,079	2,273	15,267	15,750	9,969	92,030	146,910

Source: EV-volumes, BofA Global Research

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US BEV sales at a glance

Exhibit 30: US BEV sales units (sorted by latest month)

Tesla and GM gained 5.6ppts and 1.9ppts of m/s in US, respectively, with share taken from Ford, BMW, and VW (-3.2ppts, -2.4ppts, -2.3ppts, respectively)

US BEV unit sales	2021	2022	2023	4Q22	1Q23	2Q23	3Q23	4Q23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24
Tesla Inc.	349,400	501,229	630,148	146,418	153,843	161,940	150,580	163,785	49,450	50,230	51,250	51,610	60,925	49,700
GM	24,828	39,242	75,883	16,266	20,670	15,650	20,094	19,469	7,016	6,978	7,080	5,936	6,453	6,432
Rivian Automotive	938	20,342	52,043	7,834	8,066	13,192	16,230	14,555	5,469	5,492	4,569	4,755	5,231	4,872
Ford	27,216	61,575	72,608	20,339	10,866	14,843	20,962	25,937	6,940	7,742	6,831	8,958	10,148	4,674
Mercedes-Benz Group	443	12,421	43,202	5,656	7,341	11,927	10,423	13,511	3,649	3,439	4,241	4,322	4,948	3,710
VW Group	36,571	44,111	70,290	15,052	15,873	13,967	20,103	20,347	6,656	7,757	6,491	6,377	7,479	3,485
Kia	8,735	28,708	32,154	4,031	6,080	7,784	10,016	8,274	4,070	2,869	2,328	2,415	3,531	3,457
Hyundai Motor	10,855	29,320	62,186	6,902	8,623	15,970	21,638	15,955	7,197	7,133	5,333	4,503	6,119	3,170
BMW Group	3,299	18,075	48,671	8,728	7,172	12,040	13,906	15,553	5,129	3,859	3,956	5,370	6,227	2,545
Geely-Volvo Car Group	8,794	16,472	25,988	4,532	5,509	7,465	6,847	6,167	2,114	2,344	2,212	1,965	1,990	1,293
Nissan	14,239	12,226	20,616	3,328	5,214	4,215	6,074	5,113	1,571	2,918	1,934	1,355	1,824	1,201
Toyota Motor Corp.	0	1,220	14,715	986	1,883	2,893	4,221	5,718	1,366	1,625	2,060	1,964	1,694	913
Lucid Motors	125	4,477	6,149	1,841	1,462	1,511	1,551	1,625	528	605	514	537	574	714
Market share														
Tesla Inc.	71.8%	63.4%	54.2%	60.3%	60.6%	56.9%	49.4%	51.3%	48.5%	48.3%	51.3%	51.0%	51.5%	57.1%
GM	5.1%	5.0%	6.5%	6.7%	8.1%	5.5%	6.6%	6.1%	6.9%	6.7%	7.1%	5.9%	5.5%	7.4%
Rivian Automotive	0.2%	2.6%	4.5%	3.2%	3.2%	4.6%	5.3%	4.6%	5.4%	5.3%	4.6%	4.7%	4.4%	5.6%
Ford	5.6%	7.8%	6.2%	8.4%	4.3%	5.2%	6.9%	8.1%	6.8%	7.4%	6.8%	8.9%	8.6%	5.4%
Mercedes-Benz Group	0.1%	1.6%	3.7%	2.3%	2.9%	4.2%	3.4%	4.2%	3.6%	3.3%	4.2%	4.3%	4.2%	4.3%
VW Group	7.5%	5.6%	6.0%	6.2%	6.3%	4.9%	6.6%	6.4%	6.5%	7.5%	6.5%	6.3%	6.3%	4.0%
Kia	1.8%	3.6%	2.8%	1.7%	2.4%	2.7%	3.3%	2.6%	4.0%	2.8%	2.3%	2.4%	3.0%	4.0%
Hyundai Motor	2.2%	3.7%	5.3%	2.8%	3.4%	5.6%	7.1%	5.0%	7.1%	6.9%	5.3%	4.5%	5.2%	3.6%
BMW Group	0.7%	2.3%	4.2%	3.6%	2.8%	4.2%	4.6%	4.9%	5.0%	3.7%	4.0%	5.3%	5.3%	2.9%
Geely-Volvo Car Group	1.8%	2.1%	2.2%	1.9%	2.2%	2.6%	2.2%	1.9%	2.1%	2.3%	2.2%	1.9%	1.7%	1.5%
Nissan	2.9%	1.5%	1.8%	1.4%	2.1%	1.5%	2.0%	1.6%	1.5%	2.8%	1.9%	1.3%	1.5%	1.4%
Toyota Motor Corp.	0.0%	0.2%	1.3%	0.4%	0.7%	1.0%	1.4%	1.8%	1.3%	1.6%	2.1%	1.9%	1.4%	1.0%
Lucid Motors	0.0%	0.6%	0.5%	0.8%	0.6%	0.5%	0.5%	0.5%	0.5%	0.6%	0.5%	0.5%	0.5%	0.8%

Source: EV-volumes, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 31: US Top BEV sales by model (sorted by highest sales in the latest month)

Tesla dominates the US market as the while the Rivian R1S and Chevrolet Bolt EUV follow with significantly lower volumes

US unit sales	Q3 22	Q4 22	Q1 23	Q2 23	Q3 23	Q4 23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	2022	2023
Tesla Model Y	57,655	70,647	92,363	92,260	93,330	93,000	31,000	30,430	30,500	30,000	32,500	29,500	188,732	370,953
Tesla Model 3	48,443	62,821	54,320	60,190	46,950	55,500	15,000	16,050	17,000	16,000	22,500	16,000	152,304	216,960
Rivian R1S	1,000	550	2,980	6,300	9,200	8,200	3,100	3,000	2,600	2,700	2,900	2,600	1,900	26,680
Chevrolet Bolt EUV	11,057	11,242	12,808	8,718	8,793	8,731	2,933	3,408	3,391	2,840	2,500	2,550	26,633	39,050
Tesla Model X	9,400	6,800	4,260	6,200	6,700	9,500	2,200	2,400	2,600	3,500	3,400	2,400	22,152	26,660
Ford F-150 Lightning	6,464	6,857	4,291	4,466	3,503	11,905	1,018	933	3,712	4,393	3,800	2,258	15,363	24,165
Cadillac Lyriq	36	86	968	1,348	3,018	3,820	943	593	904	998	1,918	1,944	122	9,154
Tesla Model S	8,480	6,150	2,900	3,290	3,600	5,750	1,250	1,350	1,150	2,100	2,500	1,500	23,990	15,540
VW ID.4	6,657	9,439	9,758	6,690	10,707	10,634	3,471	4,085	3,464	3,099	4,071	1,483	17,756	37,789
Hyundai Ioniq 5	4,800	4,490	5,736	7,905	11,665	8,612	3,572	3,958	2,979	2,372	3,261	1,465	16,738	33,918

Source: EV-volumes, BofA Global Research

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Premium vs Mass market

Exhibit 32: Global sales split between premium and mass market

European premium BEV sales fell behind China in H2 '23 on the back of a surging Chinese penetration rate

Global BEV sales	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	4Q22	1Q23	2Q23	3Q23	4Q23	2021	2022	2023
Premium	134,834	137,540	139,438	156,256	178,434	113,500	345,104	265,281	344,731	392,605	474,128	493,505	935,560	1,476,745
y/y growth	88.2%	55.6%	53.5%	39.7%	25.3%	62.3%	86.2%	50.9%	81.3%	74.9%	37.4%	75.8%	89.6%	57.8%
% total EV sales	14.5%	14.7%	15.1%	15.5%	15.9%	16.2%	14.1%	14.1%	14.3%	14.7%	15.5%	10.2%	12.2%	14.7%
Mass	792,255	798,534	784,881	853,486	945,095	585,321	2,097,746	1,613,496	2,060,810	2,278,239	2,583,462	4,333,419	6,752,340	8,536,007
y/y growth	33.2%	9.1%	28.7%	24.6%	17.7%	52.9%	35.2%	20.6%	41.7%	22.4%	23.2%	118.6%	55.8%	26.4%
% total EV sales	85.5%	85.3%	84.9%	84.5%	84.1%	83.8%	85.9%	85.9%	85.7%	85.3%	84.5%	89.8%	87.8%	85.3%
EU BEV sales	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	4Q22	1Q23	2Q23	3Q23	4Q23	2021	2022	2023
Premium	47,338	54,310	53,877	58,918	65,627	40,608	164,045	115,544	136,463	144,041	178,422	252,070	418,473	574,470
y/y growth	87.6%	41.2%	36.2%	18.1%	-12.0%	33.4%	67.2%	34.5%	64.1%	68.8%	8.8%	66.1%	66.0%	37.3%
% total EV sales	21.8%	25.7%	29.7%	28.2%	28.2%	30.3%	26.9%	24.5%	24.7%	24.2%	28.6%	19.6%	24.8%	25.6%
Mass	169,939	157,055	127,693	149,953	166,700	93,513	446,073	356,784	415,919	450,735	444,346	1,031,252	1,266,450	1,667,784
y/y growth	113.9%	13.6%	37.6%	9.1%	-22.8%	27.7%	29.1%	35.7%	57.6%	53.5%	-0.4%	64.3%	22.8%	31.7%
China BEV sales	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	4Q22	1Q23	2Q23	3Q23	4Q23	2021	2022	2023
Premium	55,860	49,918	53,363	60,074	68,184	45,590	112,869	85,968	117,988	154,038	181,621	159,092	295,469	539,615
y/y growth	101.5%	90.6%	75.3%	50.1%	60.8%	103.8%	103.3%	72.7%	118.6%	95.4%	60.9%	127.2%	85.7%	82.6%
% total EV sales	10.5%	9.3%	9.5%	9.8%	10.0%	11.2%	8.0%	8.9%	8.8%	10.0%	9.8%	5.8%	6.3%	9.5%
Mass	477,516	488,240	507,767	549,830	615,166	360,525	1,297,052	882,051	1,221,656	1,389,583	1,672,763	2,607,604	4,367,967	5,166,053
y/y growth	15.0%	2.5%	24.1%	26.3%	36.0%	79.7%	29.2%	2.4%	29.0%	10.1%	29.0%	155.0%	67.5%	18.3%
US BEV sales	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	4Q22	1Q23	2Q23	3Q23	4Q23	2021	2022	2023
Premium	19,979	19,367	20,019	23,937	26,740	16,870	40,035	36,846	53,585	58,629	70,696	56,174	137,305	219,756
y/y growth	64.0%	29.2%	72.6%	87.3%	70.8%	58.8%	95.0%	39.5%	63.2%	54.2%	76.6%	23.3%	144.4%	60.0%
% total EV sales	19.6%	18.6%	20.0%	23.7%	22.6%	19.4%	16.5%	14.5%	18.8%	19.2%	22.1%	11.5%	17.4%	18.9%
Mass	81,875	84,618	79,971	77,230	91,618	70,158	202,767	217,028	231,075	246,364	248,819	430,633	653,680	943,286
y/y growth	53.5%	40.6%	26.9%	33.7%	11.8%	-5.4%	65.0%	63.7%	51.6%	48.5%	22.7%	104.5%	51.8%	44.3%

Source: BofA Global Research, EV volumes. Note: Premium include Acura, Alfa Romeo, Audi, Bentley, BMW, Cadillac, Denza, Ferrari, Genesis, HiPhi, IM, Jaguar, Land Rover Lexus, Li Xiang, Lincoln, Lotus, Lucid, McLaren, Mercedes-Benz, Mini, NIO, Polestar, Porsche, Range Rover, Rolls-Royce, Tesla (Model X and Model S), Volvo, Voyah, Zeekr

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Exhibit 33: Premium OEM sales and M/S (sorted by latest month total sales)

BMW continues to top the premium OEM sales ranking, as Zeekr exceeds sales of sister brand Volvo Cars

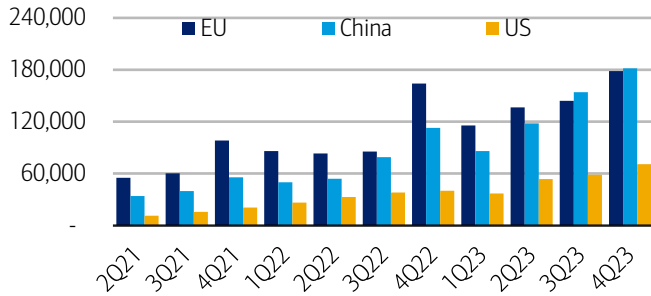
Global Premium EV	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	4Q22	1Q23	2Q23	3Q23	4Q23	2021	2022	2023
BMW	30,591	28,584	31,482	36,612	45,107	25,827	75,363	56,147	79,307	82,943	113,201	71,120	175,157	331,598
Mercedes-Benz	19,608	24,555	20,923	24,222	24,946	17,659	46,243	40,587	56,221	63,083	70,091	64,292	132,455	229,982
Zeekr	12,445	12,053	13,078	13,124	13,615	12,720	32,471	15,428	27,399	36,205	39,817	6,033	71,945	118,849
Audi	15,013	17,825	17,291	17,330	19,602	12,651	41,117	34,044	41,277	46,403	54,223	81,132	118,570	175,947
Volvo	7,113	9,437	10,085	10,527	10,337	10,509	33,514	29,478	32,223	22,498	30,949	25,725	68,691	115,148
NIO	20,580	15,457	16,077	16,167	18,178	10,182	40,515	31,379	25,499	55,467	50,422	93,482	124,704	162,767
IM (Zhiji Motor)	2,191	1,805	4,068	8,792	10,412	5,001	1,928	3,765	6,025	5,330	23,272	3	5,293	38,392
Tesla	5,163	6,694	4,726	7,049	9,934	4,695	17,180	10,705	19,294	16,021	21,709	24,942	66,703	67,729
Polestar	5,572	4,874	3,768	4,167	4,957	2,505	19,416	11,083	14,967	16,198	12,892	28,723	49,282	55,140
Cadillac	1,738	1,390	1,308	1,849	2,531	2,407	2,390	1,940	1,682	5,176	5,688	-	2,533	14,486
Porsche	2,814	3,038	3,331	3,964	4,766	2,311	9,844	9,358	9,135	9,237	12,061	40,610	35,035	39,791
Mini	4,060	3,691	4,855	4,616	6,131	1,778	13,909	9,356	10,787	11,313	15,602	33,595	44,334	47,058
Global Premium M/S	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	4Q22	1Q23	2Q23	3Q23	4Q23	2021	2022	2023
BMW	22.7%	20.8%	22.6%	23.4%	25.3%	22.8%	21.8%	21.2%	23.0%	21.1%	23.9%	14.4%	18.7%	22.5%
Mercedes-Benz	14.5%	17.9%	15.0%	15.5%	14.0%	15.6%	13.4%	15.3%	16.3%	16.1%	14.8%	13.0%	14.2%	15.6%
Zeekr	9.2%	8.8%	9.4%	8.4%	7.6%	11.2%	9.4%	5.8%	7.9%	9.2%	8.4%	1.2%	7.7%	8.0%
Audi	11.1%	13.0%	12.4%	11.1%	11.0%	11.1%	11.9%	12.8%	12.0%	11.8%	11.4%	16.4%	12.7%	11.9%
Volvo	5.3%	6.9%	7.2%	6.7%	5.8%	9.3%	9.7%	11.1%	9.3%	5.7%	6.5%	5.2%	7.3%	7.8%
NIO	15.3%	11.2%	11.5%	10.3%	10.2%	9.0%	11.7%	11.8%	7.4%	14.1%	10.6%	18.9%	13.3%	11.0%
IM (Zhiji Motor)	1.6%	1.3%	2.9%	5.6%	5.8%	4.4%	0.6%	1.4%	1.7%	1.4%	4.9%	0.0%	0.6%	2.6%
Tesla	3.8%	4.9%	3.4%	4.5%	5.6%	4.1%	5.0%	4.0%	5.6%	4.1%	4.6%	5.1%	7.1%	4.6%
Polestar	4.1%	3.5%	2.7%	2.7%	2.8%	2.2%	5.6%	4.2%	4.3%	4.1%	2.7%	5.8%	5.3%	3.7%
Cadillac	1.3%	1.0%	0.9%	1.2%	1.4%	2.1%	0.7%	0.7%	0.5%	1.3%	1.2%	0.0%	0.3%	1.0%
Porsche	2.1%	2.2%	2.4%	2.5%	2.7%	2.0%	2.9%	3.5%	2.6%	2.4%	2.5%	8.2%	3.7%	2.7%
Mini	3.0%	2.7%	3.5%	3.0%	3.4%	1.6%	4.0%	3.5%	3.1%	2.9%	3.3%	6.8%	4.7%	3.2%

Source: BofA Global Research, EV volumes

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Exhibit 34: Premium EV sales by region

China premium market surpassed EU in Q3 23

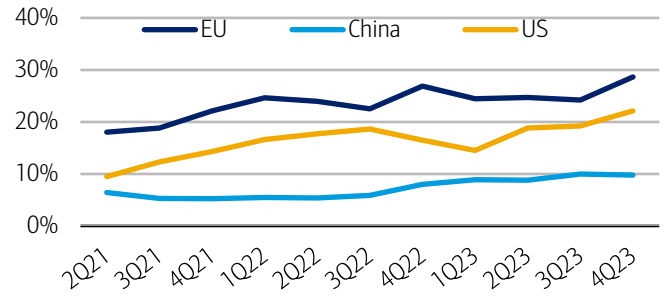


Source: BofA Global Research, EV volumes

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Exhibit 35: Premium EV sales as a % of region total EV sales

Premium EV market is much more saturated in the EU than China & US

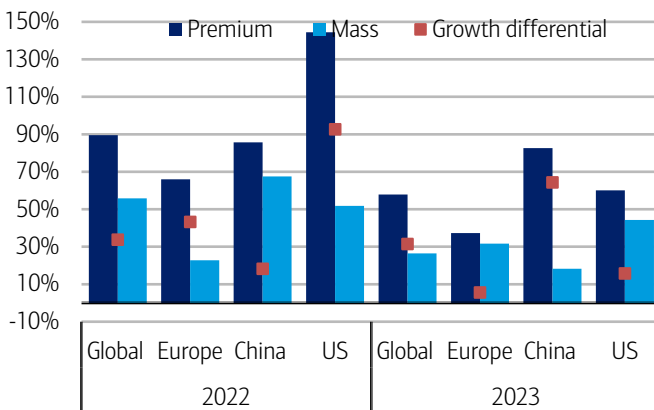


Source: BofA Global Research, EV volumes

BofA GLOBAL RESEARCH

Exhibit 36: Premium EV y/y sales growth by region

The premium market grew faster than mass in 2023

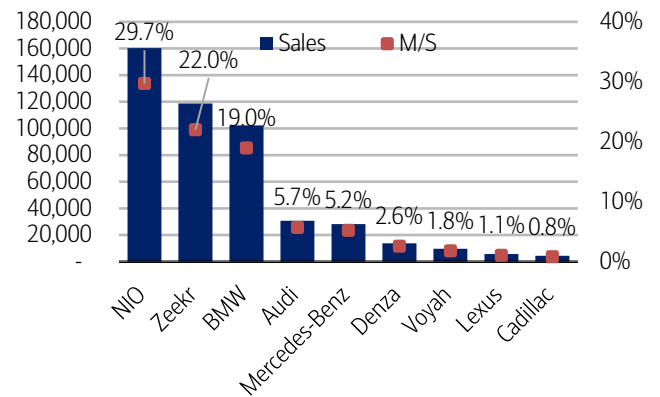


Source: BofA Global Research, EV volumes

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Exhibit 37: China premium EV market by OEM (2023)

New Chinese entrants are disrupting legacy OEMs premium share

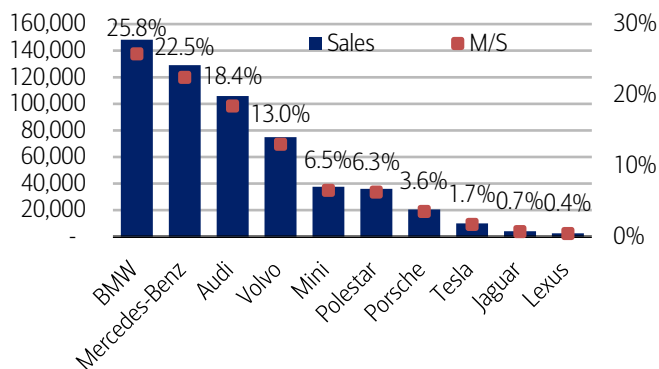


Source: BofA Global Research, EV volumes

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Exhibit 38: European premium EV market by OEM (2023)

Legacy OEM premium share in Europe remains high

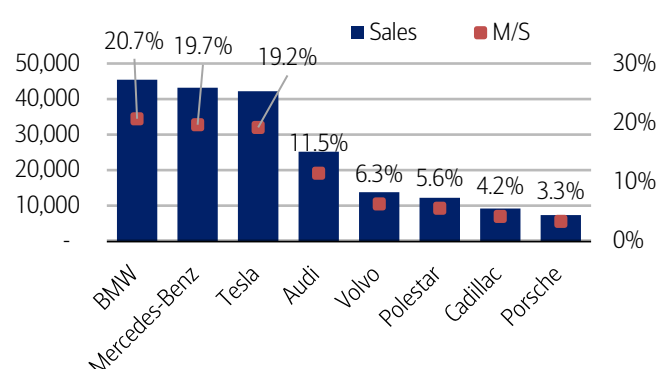


Source: BofA Global Research, EV volumes

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Exhibit 39: US premium EV market by OEM (2023)

Legacy OEM dominate the market but Polestar and Tesla are stealing share



Source: BofA Global Research, EV volumes

BofA GLOBAL RESEARCH

BofA global xEV sales forecasts by region

Exhibit 40: Global xEV Forecast

North America xEV sales should continue to outperform while China xEV will continue to outpace EU sales growth as it focused on both BEVs and PHEV

xEV Sales by Region	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Europe	1,409,545	2,354,278	2,711,787	3,248,493	3,796,725	4,578,832	5,466,174	6,678,677	7,638,365	9,066,550	9,963,380
West & Central Europe	1,405,008	2,345,727	2,702,372	3,163,180	3,666,463	4,390,684	5,176,900	6,291,909	7,190,683	8,568,181	9,415,889
Eastern Europe	4,537	8,551	9,415	85,313	130,262	188,148	289,274	386,768	447,682	498,369	547,491
North America	374,721	748,118	1,104,310	1,616,545	2,274,352	2,927,096	3,762,109	4,462,762	5,367,680	6,163,807	7,516,607
Greater China	1,342,723	3,418,733	6,219,277	8,473,813	9,958,658	12,021,662	13,136,307	14,340,419	15,561,195	16,881,958	18,043,824
Japan	31,035	42,844	93,692	145,559	243,000	538,000	720,899	888,191	1,059,338	1,248,677	1,469,000
Korea	52,060	115,424	171,860	169,680	215,411	286,835	299,427	312,648	326,531	341,107	356,413
Total	3,250,493	6,788,464	10,546,470	14,199,730	17,201,017	21,446,758	25,023,109	29,022,744	32,856,138	37,199,577	41,199,086
xEV as % of LV sales	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Europe	8.4%	14.1%	18.1%	18.3%	21.5%	25.9%	30.5%	37.5%	42.8%	50.2%	56.8%
West & Central Europe	10.2%	16.9%	20.8%	21.4%	24.5%	29.2%	33.9%	41.6%	47.9%	56.5%	64.4%
Eastern Europe	0.2%	0.3%	0.5%	2.9%	4.9%	7.1%	11.0%	14.3%	15.9%	17.2%	18.8%
North America	2.2%	4.2%	6.7%	8.7%	11.8%	14.4%	17.8%	20.9%	24.9%	29.0%	36.0%
Greater China	5.6%	14.0%	25.3%	32.6%	37.6%	44.7%	48.0%	51.7%	55.4%	59.5%	62.9%
Japan	0.7%	1.0%	2.3%	3.1%	4.8%	10.6%	14.6%	18.5%	22.5%	26.4%	30.4%
Korea	2.8%	6.8%	10.4%	9.8%	13.3%	17.6%	18.3%	19.0%	19.7%	20.5%	21.3%
Total	4.2%	8.5%	13.4%	16.4%	19.5%	23.8%	27.1%	31.0%	34.6%	38.9%	43.0%
xEV unit sales y/y change %	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Europe	138%	67%	15%	20%	16.9%	20.6%	19.4%	22.2%	14.4%	18.7%	9.9%
West & Central Europe	138%	67%	15%	17%	15.9%	19.8%	17.9%	21.5%	14.3%	19.2%	9.9%
Eastern Europe	51%	88%	10%	806%	52.7%	44.4%	53.7%	33.7%	15.7%	11.3%	9.9%
North America	2%	100%	48%	46%	40.7%	28.7%	28.5%	18.6%	20.3%	14.8%	21.9%
Greater China	11%	155%	82%	36%	17.5%	20.7%	9.3%	9.2%	8.5%	8.5%	6.9%
Japan	-28%	38%	119%	55%	66.9%	121.4%	34.0%	23.2%	19.3%	17.9%	17.6%
Korea	49%	122%	49%	-1%	27.0%	33.2%	4.4%	4.4%	4.4%	4.5%	4.5%
Total	43%	109%	55%	35%	21.1%	24.7%	16.7%	16.0%	13.2%	13.2%	10.8%

Source: BofA Global Research, EV volumes, S&P

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Exhibit 41: NEW Global PHEV Forecast

We expect similar market trends in 2024 than the ones observed in 2023, with growth led by China and North America while EU sales should remain stable

PHEV Sales by Region	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Europe	625,916	1,056,852	1,026,864	1,006,691	1,068,995	1,073,834	1,047,619	945,651	851,729	725,932	541,336
West & Central Europe	623,893	1,054,013	1,026,011	993,122	1,015,493	982,845	946,860	818,100	713,988	564,849	352,466
Eastern Europe	2,023	2,839	853	13,569	53,502	90,989	100,759	127,551	137,741	161,083	188,870
North America	83,772	205,648	218,129	319,312	377,783	449,735	580,642	668,870	655,634	639,229	664,399
Greater China	239,211	623,688	1,519,938	2,715,683	3,444,691	4,312,127	4,622,803	4,946,265	5,248,704	5,528,999	5,572,612
Japan	14,617	22,596	37,260	53,454	85,000	178,000	198,330	216,028	235,778	259,859	290,000
Korea	6,559	19,029	12,731	11,787	11,272	11,835	12,427	13,048	13,701	14,386	15,105
Total	987,325	1,961,557	2,860,873	4,197,094	5,079,687	6,120,694	6,561,280	6,893,723	7,113,055	7,278,857	7,197,242
PHEV as % of LV sales	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Europe	3.7%	6.3%	6.9%	5.7%	6.1%	6.1%	5.8%	5.3%	4.8%	4.0%	3.1%
West & Central Europe	4.5%	7.6%	7.9%	6.7%	6.8%	6.5%	6.2%	5.4%	4.8%	3.7%	2.4%
Eastern Europe	0.1%	0.1%	0.0%	0.5%	2.0%	3.4%	3.8%	4.7%	4.9%	5.6%	6.5%
North America	0.5%	1.2%	1.3%	1.7%	2.0%	2.2%	2.7%	3.1%	3.0%	3.0%	3.2%
Greater China	1.0%	2.6%	6.2%	10.5%	13.0%	16.0%	16.9%	17.8%	18.7%	19.5%	19.4%
Japan	0.3%	0.5%	0.9%	1.1%	1.7%	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%
Korea	0.4%	1.1%	0.8%	0.7%	0.7%	0.7%	0.8%	0.8%	0.8%	0.9%	0.9%
Total	1.3%	2.4%	3.6%	4.9%	5.8%	6.8%	7.1%	7.4%	7.5%	7.6%	7.5%
PHEV unit sales y/y change %	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Europe	207%	69%	-3%	-2%	6.2%	0.5%	-2.4%	-9.7%	-9.9%	-14.8%	-25.4%
West & Central Europe	209%	69%	-3%	-3%	2.3%	-3.2%	-3.7%	-13.6%	-12.7%	-20.9%	-37.6%
North America	-16%	145%	6%	46%	18.3%	19.0%	29.1%	15.2%	-2.0%	-2.5%	3.9%
Greater China	0%	161%	144%	79%	26.8%	25.2%	7.2%	7.0%	6.1%	5.3%	0.8%
Japan	-26%	55%	65%	43%	59.0%	109.4%	11.4%	8.9%	9.1%	10.2%	11.6%
Korea	191%	190%	-33%	-7%	-4.4%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total	71%	99%	46%	47%	21.0%	20.5%	7.2%	5.1%	3.2%	2.3%	-1.1%

Source: BofA Global Research, EV volumes, S&P

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Exhibit 42: Global BEV penetration

We update our BEV forecast to reflect the latest forecast published from the regional teams, but global penetration rate forecast for 2024 remains unchanged

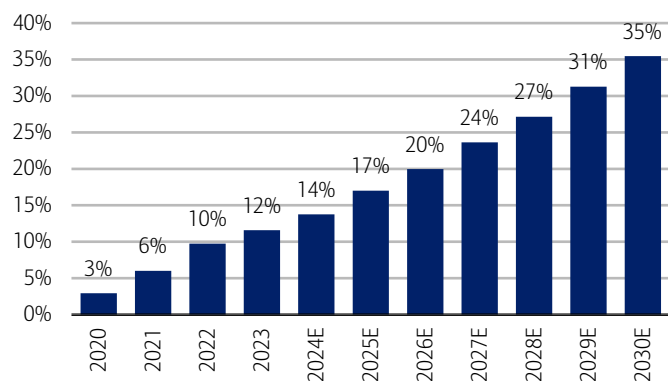
BEV Sales by Region	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Europe	783,629	1,297,426	1,684,923	2,241,802	2,727,730	3,504,998	4,418,556	5,733,026	6,786,636	8,340,618	9,422,044
West & Central Europe	781,115	1,291,714	1,676,361	2,170,058	2,650,970	3,407,839	4,230,041	5,473,808	6,476,695	8,003,332	9,063,423
Eastern Europe	2,514	5,712	8,562	71,744	76,760	97,159	188,515	259,217	309,941	337,286	358,620
North America	290,949	542,470	886,181	1,297,233	1,896,569	2,477,361	3,181,467	3,793,892	4,712,047	5,524,578	6,852,208
Greater China	1,103,512	2,795,045	4,699,339	5,758,130	6,513,967	7,709,535	8,513,505	9,394,154	10,312,491	11,352,959	12,471,212
Japan	16,418	20,248	56,432	92,105	158,000	360,000	522,569	672,163	823,560	988,818	1,179,000
Korea	45,501	96,395	159,129	157,893	204,139	275,000	287,000	299,600	312,830	326,722	341,308
Total	2,263,168	4,826,907	7,685,597	10,002,636	12,121,330	15,326,064	18,461,829	22,129,022	25,743,083	29,920,719	34,001,845
BEV as % of LV sales	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Europe	4.7%	7.7%	11.3%	12.6%	15.4%	19.8%	24.7%	32.2%	38.1%	46.2%	53.7%
West & Central Europe	5.6%	9.3%	12.9%	14.7%	17.7%	22.7%	27.7%	36.2%	43.1%	52.8%	62.0%
Eastern Europe	0.1%	0.2%	0.4%	2.4%	2.9%	3.7%	7.1%	9.6%	11.0%	11.7%	12.3%
North America	1.7%	3.1%	5.4%	7.0%	9.8%	12.2%	15.0%	17.8%	21.9%	26.0%	32.8%
Greater China	4.6%	11.5%	19.1%	22.2%	24.6%	28.7%	31.1%	33.8%	36.7%	40.0%	43.4%
Japan	0.4%	0.5%	1.4%	2.0%	3.1%	7.1%	10.5%	14.0%	17.5%	20.9%	24.4%
Korea	2.4%	5.7%	9.6%	9.1%	12.6%	16.9%	17.5%	18.2%	18.9%	19.6%	20.4%
Total	2.9%	6.0%	9.7%	11.6%	13.8%	17.0%	20.0%	23.6%	27.1%	31.3%	35.5%

Source: BofA Global Research estimates, S&P

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Exhibit 43: Penetration rate of BEV

Penetration rate growth to accelerate after 2025e

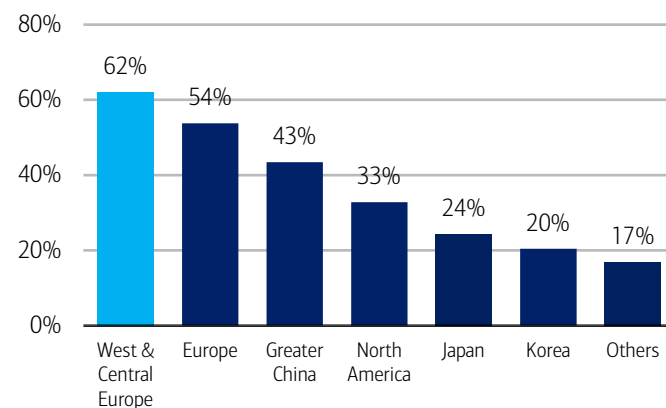


Source: BofA Global Research estimates, S&P

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Exhibit 44: Penetration rate by region for 2030e

West Europe to have highest penetration rate in 2030



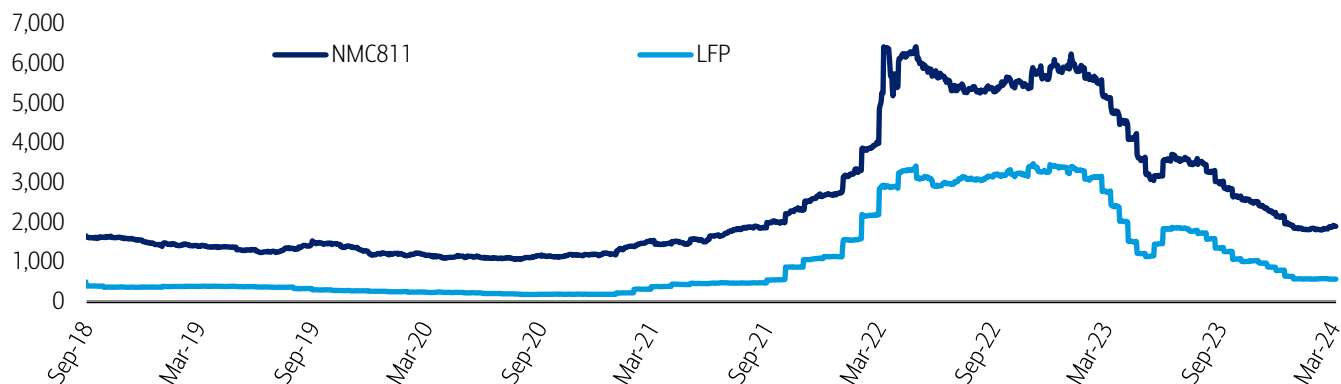
Source: BofA Global Research estimates, S&P

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Raw material price tracker for batteries

Exhibit 45: NMC811 vs Lithium Iron Phosphate (LFP) battery price

Nickel and Lithium prices declined sharply in H1 '23, with prices falling further after the spike in Q2

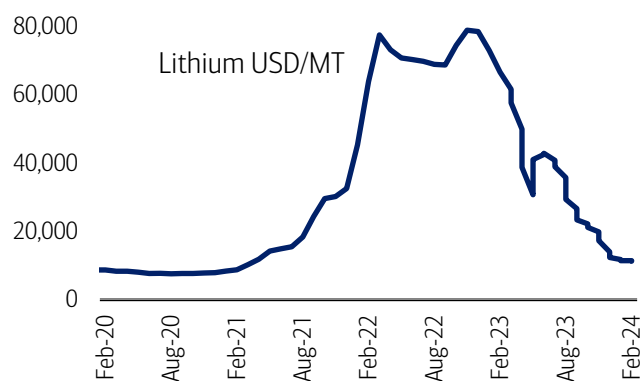


Source: Bloomberg, BofA Global Research

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Exhibit 46: Lithium price Index

Lithium price spiked in May/June but has declined since

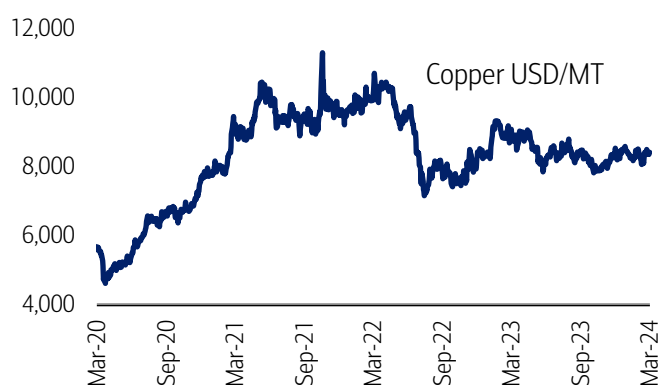


Source: Bloomberg, BofA Global Research

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Exhibit 47: Copper price

Copper price has been range bound in last couple of months

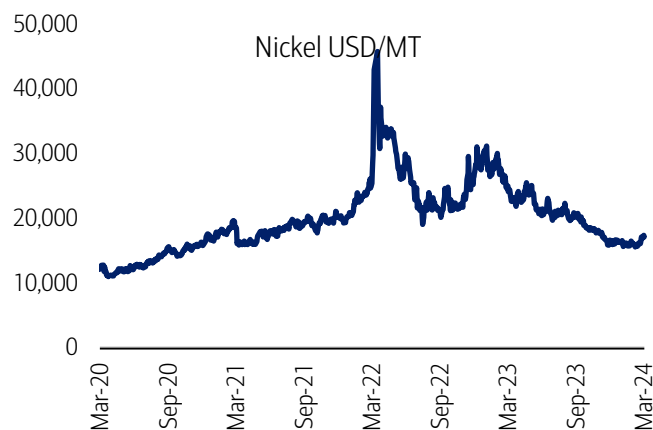


Source: Bloomberg, BofA Global Research

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Exhibit 48: Nickel price

Nickel prices continue their downwards trend well below 20k per MT again

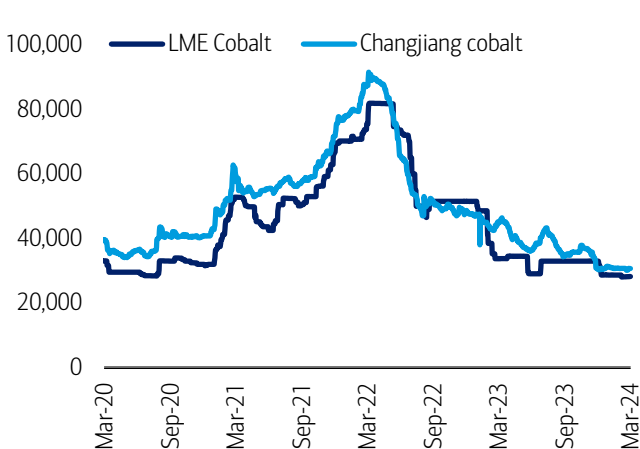


Source: Bloomberg, BofA Global Research

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Exhibit 49: Changing cobalt and LME cobalt prices (USD/MT)

Changjiang cobalt and LME cobalt prices continue to decline



Source: Bloomberg, BofA Global Research

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Global EV production by (legacy) OEM

Exhibit 50: Global EV production by OEM

S&P now expects Geely to be the largest BEV producer in 2024, ahead of VW as Chinese OEMs aggressively expand production

Region	2021	2022	2023	2024e	2025e	2026e	2027e	2028e	2029e	2030e
Number of vehicles (units); Traditional OEMs										
Volkswagen	460,691	617,892	811,324	994,442	1,492,748	2,039,452	2,767,792	3,178,719	3,954,716	4,416,287
Stellantis	235,542	287,425	349,176	550,304	1,041,243	1,368,149	1,789,643	2,292,963	2,773,456	3,277,238
Hyundai	249,338	370,849	511,553	700,449	1,212,609	1,646,224	2,034,033	2,335,339	2,612,131	2,782,908
Toyota	13,220	44,696	128,880	175,603	384,322	712,605	1,094,693	1,502,326	2,029,854	2,371,621
Mercedes-Benz	116,615	206,702	360,973	426,226	545,793	860,938	1,190,585	1,471,402	1,688,259	1,940,693
Geely	129,414	437,094	621,271	1,019,123	1,225,604	1,431,535	1,617,849	1,798,460	1,907,102	2,039,353
General Motors	47,174	84,637	213,953	341,843	455,423	678,486	1,048,376	1,260,828	1,377,550	1,447,343
BMW	111,796	251,703	418,437	610,610	695,561	804,973	964,148	1,159,105	1,421,931	1,676,917
Ford	68,020	126,418	168,911	260,344	471,726	627,103	844,907	1,159,843	1,372,291	1,716,478
Nissan	77,916	164,529	168,833	178,548	248,961	388,525	631,756	775,846	924,612	1,090,475
Honda	13,252	26,060	23,853	108,126	188,132	336,549	588,699	730,461	880,873	1,018,085
Renault	147,661	181,328	155,989	221,975	381,321	466,597	554,642	585,880	712,995	806,480
Great Wall	135,206	108,019	113,231	167,998	210,629	232,624	228,992	272,831	301,514	327,630
Changan	111,243	226,051	240,748	319,804	442,535	515,307	584,706	615,361	678,536	696,201
SAIC	107,654	244,833	379,867	428,164	511,794	615,632	667,793	689,080	785,666	834,263
Tata	18,904	48,331	91,364	146,578	182,983	344,525	475,056	603,829	688,113	748,321
SAIC-General Motors-Wuling	462,563	637,416	449,838	399,036	474,266	526,851	556,112	527,024	567,165	628,786
BAIC	41,396	85,005	134,605	169,191	170,829	177,051	198,138	220,172	228,890	251,804
Dongfeng	92,813	224,788	111,322	231,363	268,410	301,980	345,911	400,482	432,526	488,014
Suzuki	0	0	0	20,748	101,237	151,677	211,293	245,627	301,501	358,192
Chery	101,581	233,747	146,925	244,447	297,428	361,747	390,893	412,961	418,754	500,065
GAC	131,217	294,513	521,014	630,768	705,523	698,554	710,928	715,415	789,986	775,104
Mazda	8,517	6,431	6,037	3,935	7,930	10,340	42,948	70,250	87,413	124,875
FAW	42,253	59,001	103,584	113,492	175,516	209,189	238,296	261,775	273,525	293,212
Subaru	0	6,576	18,528	25,745	35,289	74,644	128,008	208,930	259,747	277,540
Ferrari	0	0	0	0	89	955	1,941	2,312	5,742	6,483
Aston Martin	0	0	0	0	0	854	1,086	1,619	3,299	6,176
BEV penetration ratio as % of total production										
Volkswagen	5.7%	7.3%	9.0%	11.5%	17.2%	23.6%	31.9%	37.0%	44.5%	50.8%
Stellantis	3.9%	4.7%	5.4%	8.8%	15.8%	20.2%	26.2%	34.5%	41.0%	48.7%
Hyundai	3.8%	5.3%	6.9%	9.8%	16.8%	23.0%	28.8%	33.4%	37.0%	38.9%
Toyota	0.1%	0.4%	1.1%	1.6%	3.5%	6.5%	10.2%	13.8%	18.4%	21.8%
Mercedes-Benz	5.0%	8.2%	14.0%	16.4%	20.9%	31.7%	41.5%	49.5%	56.0%	64.7%
Geely	6.3%	19.4%	22.9%	34.4%	40.1%	45.3%	49.8%	54.4%	58.0%	62.5%
General Motors	1.1%	1.7%	4.3%	7.0%	9.6%	14.8%	24.2%	29.0%	31.4%	33.1%
BMW	4.6%	10.6%	15.8%	23.9%	25.9%	30.5%	36.9%	43.8%	53.4%	61.5%
Ford	1.9%	3.1%	4.1%	6.5%	11.9%	16.6%	22.0%	30.9%	36.8%	45.3%
Nissan	2.4%	5.4%	4.9%	5.8%	8.6%	13.3%	21.0%	25.7%	31.6%	38.8%
Honda	0.3%	0.7%	0.6%	2.6%	4.6%	8.4%	14.2%	18.5%	22.3%	25.4%
Renault	9.9%	12.8%	10.4%	15.2%	23.1%	27.4%	31.5%	34.5%	40.5%	44.5%
Great Wall	10.3%	9.3%	8.7%	12.6%	15.7%	18.1%	18.0%	21.1%	23.1%	24.9%
Changan	7.4%	13.4%	12.1%	15.4%	20.6%	24.3%	29.5%	31.6%	35.5%	36.7%
SAIC	9.6%	21.3%	28.3%	31.9%	37.1%	41.9%	47.1%	50.2%	55.5%	56.1%
Tata	2.1%	4.4%	7.6%	12.3%	16.5%	28.5%	38.3%	47.5%	52.4%	54.7%
SAIC-General Motors-Wuling	27.3%	39.4%	32.7%	33.5%	40.4%	43.7%	46.7%	46.0%	48.9%	51.8%
BAIC	7.1%	17.2%	18.5%	21.5%	22.9%	24.5%	28.3%	32.4%	34.1%	38.0%
Dongfeng	12.0%	30.4%	17.9%	31.3%	35.7%	37.9%	43.1%	46.1%	47.9%	51.8%
Suzuki	0.0%	0.0%	0.0%	0.6%	3.0%	4.6%	6.2%	7.1%	8.8%	10.0%
Chery	10.2%	20.1%	8.8%	14.1%	16.5%	19.7%	21.9%	23.2%	24.0%	27.9%
GAC	28.9%	44.1%	56.3%	63.1%	64.9%	63.8%	64.1%	64.3%	66.7%	67.2%
Mazda	0.7%	0.5%	0.4%	0.3%	0.7%	0.9%	4.4%	7.4%	9.8%	14.7%
FAW	9.3%	14.2%	20.5%	24.7%	37.1%	40.9%	45.4%	48.2%	49.8%	52.0%
Subaru	0.0%	0.8%	1.9%	2.5%	3.5%	7.8%	14.1%	23.1%	29.7%	34.9%
Ferrari	0.0%	0.0%	0.0%	0.0%	0.6%	6.0%	11.6%	15.3%	36.0%	43.7%
Aston Martin	0.0%	0.0%	0.0%	0.0%	0.0%	14.4%	20.0%	28.8%	54.9%	89.6%

Source: BofA Global Research, S&P

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Global top 50 BEV models produced

Sorted by total BEVs to be produced in 2024e

Exhibit 51: Global top models in terms of total production volume in 2024

Tesla should continue to comfortably dominate the market with the Model Y and 3; VW ID.4 is the most produce EV from an EU OEM:

Sales brand	Global Nameplate	Segment	Sub-Segment	2023 (total)	2023 y-o-y	2024e (total)	2024 y-o-y
Tesla	Model Y	D	SUV	1,226,898	409,764	1,325,271	98,373
Tesla	Model 3	D	Car	548,261	66,960	668,749	120,488
BYD	Yuan Plus	C	SUV	413,263	208,188	403,888	-9,375
BYD	Dolphin	B	Car	368,646	162,200	358,113	-10,533
BYD	F0	A	Car	281,838	281,838	280,944	-894
Aion	Aion S	D	Car	228,802	111,855	250,169	21,367
Aion	Aion Y	C	SUV	236,397	116,561	210,424	-25,973
Aito	Wenjie M7	E	SUV	67,949	45,124	192,230	124,281
Volkswagen	ID.4	C	SUV	198,201	13,868	191,342	-6,859
Wuling	Bingo	A	Car	234,385	234,385	189,714	-44,671
Volkswagen	ID.3	C	Car	143,878	60,466	164,030	20,152
MG	4	C	Car	152,153	113,827	160,588	8,435
LI	L7	E	SUV	141,719	141,719	139,685	-2,034
Hyundai	Ioniq 5	C	SUV	120,287	18,246	130,837	10,550
LI	L8	E	SUV	122,421	104,854	121,464	-957
Changan	BenBen	A	Car	155,992	-12,701	116,602	-39,390
Volvo	XC40	C	SUV	73,267	22,942	116,506	43,239
Nissan	Qashqai	C	SUV	66,645	50,546	113,647	47,002
LI	L9	E	SUV	117,126	76,218	111,342	-5,784
Nissan	X-Trail	C	SUV	123,530	93,962	108,582	-14,948
Kia	EV6	D	SUV	95,870	11,152	104,664	8,794
Volvo	EX30	B	SUV	23,952	23,952	104,112	80,160
BMW	i4	D	Car	92,223	42,052	101,215	8,992
BYD	Han	E	Car	109,798	-33,971	97,316	-12,482
Audi	Q4 e-tron	C	SUV	93,939	50,676	96,589	2,650
BMW	i5	E	Car	18,864	18,864	94,381	75,517
Geely	Geome Panda Mini	A	Car	115,202	115,202	94,280	-20,922
Xpeng	G6	D	SUV	47,671	47,671	89,075	41,404
BYD	Seal	D	Car	84,589	32,510	86,300	1,711
Hyundai	Kona	B	SUV	71,621	14,522	85,720	14,099
ORA	Haomao	B	Car	97,932	26,411	81,312	-16,620
BYD	Qin Plus	D	Car	132,170	12,696	80,841	-51,329
Kia	Niro	C	SUV	76,564	22,707	80,300	3,736
BMW	iX1	C	SUV	62,340	58,960	79,557	17,217
BYD	Song Plus	D	SUV	94,942	25,282	78,048	-16,894
Fiat	500	A	Car	77,089	9,974	77,653	564
Aito	Wenjie M9	E	SUV	0	0	77,636	77,636
Zeekr	001	E	Car	78,459	6,397	77,120	-1,339
NIO	ES6	D	SUV	54,715	9,225	75,579	20,864
BMW	iX3	D	SUV	71,003	7,462	75,192	4,189
Leapmotor	C11	D	SUV	83,081	37,778	75,192	-7,889
Deepal	S7	D	SUV	67,095	67,095	73,834	6,739
Chevrolet	Equinox EV	C	SUV	347	347	73,766	73,419
Nissan	Note	B	Car	104,493	-17,372	71,630	-32,863
Nissan	Ariya	C	SUV	43,397	19,327	70,595	27,198
Volkswagen	ID.7	D	Car	5,636	5,636	69,533	63,897
MI	SU7	E	Car	0	0	69,216	69,216
Hyundai	Ioniq 6	D	Car	54,364	36,478	68,204	13,840
Dacia	Spring	A	Car	54,229	-8,119	67,867	13,638
Polestar	Polestar 2	D	Car	57,274	7,153	66,633	9,359

Source: BofA Global Research, S&P

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Global top 50 BEV models

Sorted by y-o-y increase of BEVs produced in 2024e

Exhibit 52: Global top models in terms of total production volume changes sorted by y/y increase in vehicles produced in 2024e

High volume launches for 2024e include the Aito Wenjie M7, Tesla Model 3/Y and Volvo EX30

Sales brand	Global Nameplate	Segment	Sub-Segment	2023 (total)	2023 y-o-y	2024e (total)	2024 y-o-y	2025e (total)	2025 y-o-y
Aito	Wenjie M7	E	SUV	67,949	45,124	192,230	124,281	169,594	-22,636
Tesla	Model 3	D	Car	548,261	66,960	668,749	120,488	731,774	63,025
Tesla	Model Y	D	SUV	1,226,898	409,764	1,325,271	98,373	1,433,759	108,488
Volvo	EX30	B	SUV	23,952	23,952	104,112	80,160	149,509	45,397
Aito	Wenjie M9	E	SUV	0	0	77,636	77,636	62,726	-14,910
BMW	i5	E	Car	18,864	18,864	94,381	75,517	109,878	15,497
Chevrolet	Equinox EV	C	SUV	347	347	73,766	73,419	92,212	18,446
MI	SU7	E	Car	0	0	69,216	69,216	81,312	12,096
Volkswagen	ID.7	D	Car	5,636	5,636	69,533	63,897	103,737	34,204
Renault	Scenic	C	SUV	275	275	55,927	55,652	57,761	1,834
Geely	E7	C	SUV	0	0	47,232	47,232	60,096	12,864
Nissan	Qashqai	C	SUV	66,645	50,546	113,647	47,002	104,949	-8,698
BYD	C-CUV EV	C	SUV	0	0	46,847	46,847	79,281	32,434
Kia	EV3	C	SUV	0	0	46,784	46,784	130,997	84,213
Geely	E8	E	Car	0	0	44,344	44,344	48,400	4,056
Volvo	XC40	C	SUV	73,267	22,942	116,506	43,239	100,251	-16,255
Xpeng	G6	D	SUV	47,671	47,671	89,075	41,404	91,766	2,691
Mini	Countryman	C	SUV	0	0	40,556	40,556	49,700	9,144
Tesla	Cybertruck	D	PUP	78	78	40,370	40,292	161,824	121,454
Porsche	Macan	D	SUV	0	0	40,236	40,236	56,823	16,587
BYD	Qin	D	Car	27,779	-7,002	65,426	37,647	117,229	51,803
Honda	Prologue	D	SUV	0	0	37,244	37,244	32,258	-4,986
Changan	Qiyuan A07	D	Car	18,089	18,089	55,244	37,155	60,984	5,740
Geely	E6	C	Car	0	0	36,312	36,312	92,928	56,616
Chevrolet	Blazer EV	D	SUV	11,785	11,785	47,613	35,828	49,103	1,490
Ford	Transit Custom	D	Van	1,626	-152	36,363	34,737	44,839	8,476
Volvo	EX90	E	SUV	0	0	33,895	33,895	60,747	26,852
BYD	Yuan Up	C	SUV	0	0	32,896	32,896	40,632	7,736
Mini	Cooper	B	Car	4,000	4,000	35,789	31,789	63,820	28,031
Aion	C+SUV	C	SUV	0	0	31,373	31,373	88,282	56,909
Ford	Explorer	C	SUV	0	0	31,161	31,161	75,011	43,850
Peugeot	3008	C	SUV	0	0	30,933	30,933	51,502	20,569
LI	L6	E	SUV	0	0	29,970	29,970	48,789	18,819
Tata	Punch	B	SUV	2,993	2,993	32,741	29,748	32,500	-241
Chevrolet	Silverado EV	D	PUP	1,020	1,020	28,541	27,521	54,514	25,973
Nissan	Ariya	C	SUV	43,397	19,327	70,595	27,198	73,252	2,657
Hyper	HT	E	SUV	6,179	6,179	33,265	27,086	36,855	3,590
Kia	EV9	E	SUV	37,265	37,265	64,241	26,976	77,115	12,874
Exeed	Sterra ET	D	SUV	0	0	25,710	25,710	27,878	2,168
Changan	B-Hatch EV	B	Car	0	0	25,649	25,649	39,493	13,844
Aion	B-Hatch EV	B	Car	0	0	25,525	25,525	76,956	51,431
Baojun	Yueye Plus	A	SUV	0	0	24,863	24,863	32,523	7,660
Renault	5	B	Car	0	0	24,548	24,548	88,569	64,021
Citroen	C3	B	Car	2,159	1,935	26,041	23,882	69,984	43,943
ORA	C-SUV EV	C	SUV	0	0	23,760	23,760	34,848	11,088
Luxeed	S7	D	Car	1,741	1,741	25,450	23,709	25,556	106
Dodge	Daytona	D	Car	0	0	23,667	23,667	25,919	2,252
Volkswagen	ID Buzz	D	MPV	32,147	21,134	55,789	23,642	94,040	38,251
Mini	Aceman	B	SUV	0	0	23,554	23,554	45,686	22,132
Volkswagen	ID.7 Vizzion	D	Car	4,261	4,261	27,763	23,502	30,202	2,439

Source: BofA Global Research, S&P

BofA GLOBAL RESEARCH

Top 25 BEV models in Europe

Sorted by total produced vehicles in 2024e

Exhibit 53: Europe Top 25 models in terms of total production volumes

Tesla Model Y should continue to be the top produced model in EU followed by the Nissan Qashqai and Volvo XC40

Sales brand	Global Nameplate	Sub-segment	2023 (total)	2023 y-o-y	2024e (total)	2024e y-o-y	2025e (total)	2025e y-o-y
Tesla	Model Y	SUV	207,485	155,855	285,033	77,548	332,465	47,432
Nissan	Qashqai	SUV	66,645	50,546	113,647	47,002	104,949	-8,698
Volvo	XC40	SUV	71,146	23,274	113,369	42,223	97,270	-16,099
BMW	i4	Car	92,223	42,052	101,215	8,992	98,997	-2,218
Fiat	500	Car	77,089	9,974	77,653	564	84,128	6,475
Audi	Q4 e-tron	SUV	69,397	33,334	76,923	7,526	81,880	4,957
Volkswagen	ID.4	SUV	93,359	5,264	73,979	-19,380	92,054	18,075
Skoda	Enyaq	SUV	75,428	22,668	62,911	-12,517	46,494	-16,417
BMW	iX1	SUV	59,598	56,218	62,897	3,299	69,576	6,679
Volkswagen	ID.3	Car	62,834	7,674	59,918	-2,916	73,401	13,483
Hyundai	Kona	SUV	43,656	13,828	58,667	15,011	55,632	-3,035
BMW	i5	Car	18,864	18,864	56,785	37,921	64,577	7,792
Renault	Scenic	SUV	275	275	55,927	55,652	57,761	1,834
Volkswagen	ID Buzz	MPV	32,147	21,134	55,789	23,642	94,040	38,251
BMW	iX	SUV	52,527	2,846	48,780	-3,747	46,949	-1,831
Volkswagen	ID.7	Car	5,636	5,636	48,670	43,034	67,647	18,977
Mercedes-Benz	EQA	SUV	49,212	19,613	48,483	-729	47,221	-1,262
Mercedes-Benz	EQB	SUV	49,717	22,599	44,983	-4,734	40,640	-4,343
Porsche	Taycan	Car	39,397	2,305	41,982	2,585	39,551	-2,431
Mini	Countryman	SUV	0	0	40,556	40,556	49,700	9,144
Porsche	Macan	SUV	0	0	40,236	40,236	56,823	16,587
Mercedes-Benz	EQE	Car	30,981	9,948	39,933	8,952	46,651	6,718
Peugeot	208	Car	54,496	2,314	39,431	-15,065	40,446	1,015
Ford	Transit Custom	Van	1,113	-459	35,904	34,791	44,405	8,501
Volvo	C40	SUV	30,736	3,569	34,976	4,240	34,178	-798

Source: BofA Global Research, S&P

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Global top 50 PHEV models

Sorted by tot vehicle production in 2024e

Exhibit 54: Global top models in terms of total production volumes (PHEV = plug-in hybrid electric vehicles)

BYD is the undisputed PHEV leader, with 5 models in the top 10; Stellantis, through its Jeep brand and Lixiang Auto are the closest competitors

OEM Group	Sales brand	Global Nameplate	2023 (total)	2023 y-o-y	2024e (total)	2024e y-o-y	2025e (total)	2025e y-o-y
BYD	BYD	Song Plus	342,777	3,466	329,524	-13,253	328,541	-983
BYD	BYD	Qin Plus	328,888	131,856	323,363	-5,525	343,542	20,179
Stellantis	Jeep	Grand Cherokee	68,431	46,625	179,226	110,795	137,655	-41,571
BYD	BYD	Song Pro	203,913	130,357	175,860	-28,053	157,167	-18,693
Lixiang Auto	LI	L7	140,592	140,592	139,685	-907	148,394	8,709
BYD	BYD	Han	122,690	-9,783	128,603	5,913	123,389	-5,214
BYD	BYD	Tang	126,947	2,441	124,157	-2,790	124,674	517
Lixiang Auto	LI	L8	122,812	105,245	121,464	-1,348	113,835	-7,629
Stellantis	Jeep	Wrangler	85,634	18,684	111,581	25,947	112,047	466
Lixiang Auto	LI	L9	119,670	78,762	111,342	-8,328	105,706	-5,636
BYD	Denza	D9	113,948	104,118	108,953	-4,995	112,518	3,565
Geely	Lynk&Co	08	31,985	31,985	92,544	60,559	94,475	1,931
BYD	BYD	Destroyer 05	99,485	36,980	91,098	-8,387	91,476	378
Changan	Changan	Qiyuan A05	20,401	20,401	80,590	60,189	83,053	2,463
Geely	Geely	L7	67,766	67,766	79,711	11,945	70,402	-9,309
Huawei	Aito	Wenjie M7	68,578	45,753	78,048	9,470	95,451	17,403
Geely	Volvo	XC60	83,096	30,574	76,553	-6,543	66,268	-10,285
BYD	BYD	Frigate 07	72,398	70,098	72,877	479	74,342	1,465
BYD	BYD	Seal	44,713	44,713	69,408	24,695	75,504	6,096
Ford	Ford	Escape	74,949	-18,844	68,949	-6,000	60,178	-8,771
Changan	Deepal	S7	60,843	60,843	67,189	6,346	71,702	4,513
Changan	Changan	Qiyuan Q05	6,754	6,754	57,840	51,086	63,888	6,048
Changan	Deepal	SL03	52,885	30,900	56,242	3,357	65,451	9,209
BMW	BMW	X5	47,746	632	55,225	7,479	56,022	797
Stellantis	Chrysler	Pacifica/Voyager	38,815	20,717	54,759	15,944	44,444	-10,315
Geely	Geely	L5	0	0	48,487	48,487	60,405	11,918
Mercedes-Benz	Mercedes-Benz	E-Class	14,571	-24,454	48,309	33,738	59,905	11,596
Mercedes-Benz	Mercedes-Benz	C-Class	35,076	17,088	46,975	11,899	48,440	1,465
Great Wall	HAVAL	Menglong	14,129	14,129	46,272	32,143	51,110	4,838
Geely	Volvo	XC90	50,447	15,993	45,552	-4,895	38,951	-6,601
Hyundai	Kia	Sportage	45,714	27,616	43,615	-2,099	45,263	1,648
Leapmotor	Leapmotor	C11	32,140	32,140	43,367	11,227	46,000	2,633
Changan	Changan	Qiyuan A07	27,347	27,347	42,512	15,165	43,299	787
Toyota	Toyota	RAV4	40,757	-13,633	42,450	1,693	27,450	-15,000
Hyundai	Hyundai	Tucson	39,944	12,914	41,079	1,135	39,312	-1,767
Toyota	Toyota	Prius	27,716	11,290	40,671	12,955	30,687	-9,984
Great Wall	HAVAL	Xiaolong Max	38,219	38,219	39,331	1,112	37,634	-1,697
Geely	Lynk&Co	07	0	0	38,480	38,480	46,464	7,984
Hyundai	Kia	Niro	17,489	-6,719	37,147	19,658	34,518	-2,629
Volkswagen	Volkswagen	Tiguan	30,666	3,985	37,043	6,377	34,757	-2,286
Mercedes-Benz	Mercedes-Benz	GLC	26,754	8,592	36,215	9,461	40,690	4,475
Volkswagen	Cupra	Formentor	22,575	344	34,860	12,285	35,737	877
Chery	Chery	Fulwin A8	2,015	2,015	34,704	32,689	37,690	2,986
Geely	Geely	L6	23,751	23,751	34,704	10,953	48,400	13,696
Changan	Changan	Qiyuan A06	10,376	10,376	33,933	23,557	39,399	5,466
BYD	BYD	Song L	0	0	33,032	33,032	51,438	18,406
BMW	BMW	3-Series	34,456	-12,815	32,933	-1,523	36,827	3,894
SAIC-General Motors-Wuling	Wuling	Xingguang	6,954	6,954	32,248	25,294	37,171	4,923
Great Wall	WEY	Blue Mountain	32,070	32,070	31,465	-605	30,666	-799
Lixiang Auto	LI	L6	0	0	29,970	29,970	48,789	18,819

Source: BofA Global Research, S&P

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