Global Energy Storage

EV TRACKER - April 2025: European xEV sales rebound


Neil Beveridge, Ph.D.
+852 2123 2648
neil.beveridge@bernsteinsg.com


Eunice Lee, CFA
+852 2123 2606
eunice.lee@bernsteinsg.com


Stephen Reitman
+44 20 7762 5535
stephen.reitman@bernsteinsg.com


Daniel Roeska
+1 917 344 8577
daniel.roeska@bernsteinsg.com


Venugopal Garre
+65 6326 7643
venugopal.garre@bernsteinsg.com


Masahiro Akita
+81 3 6777 6998
masahiro.akita@bernsteinsg.com


Harry Martin, CFA
+44 207 676 8965
harry.martin@bernsteinsg.com


Steve Pereira Fernandes, CFA
+44 20 7676 7254
steve.pereira-fernandes@bernsteinsg.com


Brian Ho, CFA
+852 2123 2615
brian.ho@bernsteinsg.com


Hengliang Zhang
+852 2123 2629
hengliang.zhang@bernsteinsg.com


Frankie Fong
+852 2123 2637
frankie.fong@bernsteinsg.com


Saul Coleman
+44 207 676 7214
saul.coleman@bernsteinsg.com


Ankit Agrawal, CFA
+91 226 842 1441
ankit.agrawal@bernsteinsg.com

April global passenger xEV (BEV + PHEV) sales reached 1.49M (+31% YoY, -11% MoM). 2025YTD xEV sales grew by 34% YoY to 5.60M units. For April, China accounted for 63% of global xEV sales followed by Europe at 21% and N. America at 10%. Readers can download the EV tracker data set here: Model: Monthly EV Tracker.

The sales growth of EVs in China, Europe, and RoW has exceeded 30% YoY, while demand in the US has stagnated. EV sales in **China** were 937K units (**+35% YoY**) in April and 3.4M units in 4M2025 (+44% YoY). For April, **European EV sales** rebounded to 310K units (**+34% YoY**, +26% YTD). **N. America** saw signs of softening with demand at 146K units (**+0% YoY**, +4% YTD). **RoW** grew by **44% YoY** to 106K units.

Outside of China the growth rate of PHEV sales exceeded BEV, but BEV demand remained stronger in China. PHEV sales grew by 22% y-o-y to 513K units in Apr'25 (+28% 25YTD, +53% in 2024) while BEVs grew by +36% to 981K units (+38% 25YTD, +14% in 2024). BEV sales accounted for 63% of China xEV sales, 65% for Europe, 77% for North America and 78% for RoW in April.

Among the OEMs, BYD and Geely continued to lead in sales, while Tesla continued to post a YoY sales decline. In April, BYD (SNE data) sold the most monthly units with 321K (+18% YoY). Geely was the second at 96K units (+249% YoY). Tesla was the third at 86K units (-15% YoY, -13% YTD) including 53K of Model Y and 28K of Model 3, followed by Changan with 53k units (+15% YoY), and Shanghai GM Wuling with 52k units (+2% YoY). For European brands, BMW sold 42K units (+9%), VW 38K units (+78%), Mercedes 29K units (+6%), and Volvo 24K units (-13%).

Li-ion battery demand for passenger EVs increased 34% YoY to 73.6GWh in April which is inline with xEV sales. Battery sales in China were 41.5GWh (+42% YoY), Europe were 16.0GWh (+35% YoY), N. America were 10.8GWh (+8% YoY) and RoW were 5.3GWh (+41% YoY).

SVOLT, Gotion and BYD posted the fastest growth but CATL maintains its industry leading market share of 36%. CATL maintained its leading position with a market share of 36% in 2025 (vs. 36% in 2024). For April, xEV sales were 25.2GWh (+33% YoY) (34.1% M/S) largely in line with global growth. BYD with sales of 15.4GWh (+53% YoY) (20.8% M/S) remained in second place, followed by LGES with battery sales of 8.0GWh (+27% YoY) (10.8% M/S). Panasonic (not covered) M/S was 2.9% (2.2GWh, -15% YoY), while Samsung SDI sales growth remained negative as the company continues to lose market share YoY (2.6GWh, -2% YoY, 3.5% M/S).

LFP market share was 44% in April (+8%-points YoY, +2%-points MoM). In Apr'25 NMC batteries accounted for **56%** of global xEV installations (on MWh basis) compared to **63%** over the same period last year. LFP represented **44%** of global xEV installations compared to **36%** over the same period last year. LFP accounted for 68% of China's xEV battery installations (60% in Apr'24 and 69% in Mar'25) and 12% ex-China (9% in Apr'24 and 12% in Mar'25).

BERNSTEIN TICKER TABLE

			2 Jun 2025		TTM	Reported EPS				Reported P/E (x)		
			Closing	Price	Rel.							
Ticker	Rating		Price	Target	Perf.		2024A	2025E	2026E	2024A	2025E	2026E
373220.KS (LGES)	M	KRW	284,500	307,000	(23.0)%	KRW	(4,353.59)	1,884.41	7,639.39	(65.3)	151.0	37.2
300750.CH (CATL)	O	CNY	251.15	340.00	15.9%	CNY	11.52	14.88	18.19	21.8	16.9	13.8
175.HK (Geely)	O	HKD	17.74	21.00	72.5%	CNY	1.64	1.85	1.80	9.9	8.8	9.1
2333.HK (Great Wall-H)	M	HKD	12.40	13.50	(18.1)%	CNY	1.49	1.39	1.53	7.6	8.2	7.4
2238.HK (GAC)	M	HKD	2.72	2.70	(27.5)%	CNY	0.08	0.09	0.12	31.5	26.5	20.0
051910.KS (LG Chem)	O	KRW	195,300	310,000	(54.1)%	KRW	(8,826.00)	11,113	34,678	(22.1)	17.6	5.6
1211.HK	O	HKD	400.60	460.00	65.0%	CNY	13.84	19.57	23.28	26.6	18.8	15.8
002594.CH	O	CNY	356.00	420.00	41.4%	CNY	13.84	19.57	23.28	25.7	18.2	15.3
1810.HK	O	HKD	53.20	60.00	184.7%	CNY	0.95	1.73	2.08	51.2	28.2	23.4
LI	O	USD	27.82	33.00	23.6%	CNY	4.04	4.08	7.61	49.6	49.0	26.3
2015.HK (Li Auto)	O	HKD	116.40	128.00	32.7%	CNY	4.04	4.08	7.61			
NIO	M	USD	3.52	4.50	(46.6)%	CNY	(11.03)	(10.32)	(8.01)	(2.3)	(2.5)	(3.2)
9866.HK (NIO)	M	HKD	27.50	35.00	(44.2)%	CNY	(11.03)	(10.32)	(8.01)	(2.3)	(2.4)	(3.1)
600104.CH (SAIC)	M	CNY	15.26	15.00	(2.7)%	CNY	0.15	0.79	1.02	105.2	19.3	14.9
006400.KS (SDI)	O	KRW	172,800	250,000	(61.9)%	KRW	8,916.68	7,675.86	20,795	19.4	22.5	8.3
XPEV	M	USD	19.26	19.00	124.7%	CNY	(3.06)	(1.90)	(0.36)	(45.3)	(72.9)	(385.7)
9868.HK (XPeng)	M	HKD	76.90	74.00	126.8%	CNY	(3.06)	(1.90)	(0.36)	(23.1)	(37.1)	(196.3)
TVSL.IN	M	INR	2,744.80	2,500.00	13.3%	INR	43.84	54.31	67.86	62.6	50.5	40.4
BJAUT.IN	O	INR	8,563.00	11,000	(17.0)%	INR	276.10	273.91	355.31	31.0	31.3	24.1
HMCL.IN	M	INR	4,208.60	3,900.00	(27.2)%	INR	200.30	234.04	254.58	21.0	18.0	16.5
MM.IN	O	INR	3,046.50	3,650.00	6.9%	INR	86.16	101.14	119.92	35.4	30.1	25.4
VOW3.GR	M	EUR	93.72	90.00	(29.8)%	EUR	21.42	16.91	20.06	4.4	5.5	4.7
RNO.FP	O	EUR	43.70	65.00	(29.2)%	EUR	2.72	10.86	11.57	16.1	4.0	3.8
BMW.GR	O	EUR	76.60	92.00	(29.2)%	EUR	11.62	11.97	14.88	6.6	6.4	5.1
MBG.GR	M	EUR	51.27	57.00	(34.1)%	EUR	10.19	5.95	7.39	5.0	8.6	6.9
P911.GR	M	EUR	41.60	47.00	(55.9)%	EUR	3.95	1.78	2.35	10.5	23.4	17.7
RACE	O	USD	480.08	575.00	4.9%	EUR	8.46	9.20	10.98	49.6	45.5	38.2
VOLCARB.SS	M	SEK	16.98	19.00	(62.7)%	SEK	5.17	0.79	4.65	3.3	21.6	3.6
GM	U	USD	47.69	36.00	(8.2)%	USD	6.37	8.18	5.07	4.5	6.3	9.4
F	U	USD	9.98	8.30	(30.6)%	USD	1.84	1.23	1.66	5.4	8.1	6.0
PSNY	U	USD	1.08	0.40	20.8%	USD	(0.51)	(0.34)	(0.26)	2.2	1.3	0.9
ML.FP	O	EUR	33.49	40.00	(22.9)%	EUR	2.62	3.11	3.82	12.8	10.8	8.8
PIRC.IM	M	EUR	6.19	5.20	(8.2)%	EUR	0.47	0.50	0.56	13.2	12.3	11.1
5108.JP (Bridgestone)	O	JPY	5,976.00	7,000.00	(11.8)%	JPY	415.81	440.09	664.53	14.4	13.6	9.0
CON.GR	M	EUR	76.28	64.00	10.2%	EUR	5.84	5.57	7.20	13.1	13.7	10.6
STLAP.FP	M	EUR	8.53	10.48	(68.7)%	EUR	2.48	1.86	2.87	3.4	4.6	3.0
STLA	M	USD	9.78	11.70	(68.0)%	USD	2.68	2.03	3.17	3.7	4.8	3.1
AML.LN	O	GBp	83.40	120.00	(56.4)%	GBP	(0.35)	(0.18)	(0.02)	(2.4)	(4.7)	(40.1)
002466.CH (Tianqi Lithium)	O	CNY	29.32	47.00	(27.8)%	CNY	4.45	(4.73)	1.22	6.6	(6.2)	24.1
9696.HK (Tianqi Lithium)	O	HKD	25.20	34.00	(23.9)%	CNY	4.45	(4.73)	1.22	5.2	(4.9)	19.0
247540.KS (EcoPro BM)	U	KRW	89,000	88,000	(61.4)%	KRW	(991.00)	(80.00)	405.00	(89.8)	N/M	219.8
003670.KS (Posco Future M)	U	KRW	116,500	110,000	(63.0)%	KRW	(2,740.96)	158.93	1,353.97	(42.5)	733.0	86.0
MSIL.IN	O	INR	12,128	13,500	(11.5)%	INR	443.93	506.62		27.3	23.9	21.4
RIVN	U	USD	14.10	7.05	11.2%	USD	(4.69)	(2.46)	(2.39)	3.0	3.0	1.9

PRICE TARGET CHANGE / ESTIMATE CHANGE IN BOLD

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended

TVSL.IN, BJAUT.IN, HMCL.IN, MM.IN, VOW3.GR, RNO.FP, BMW.GR, MBG.GR, P911.GR, RACE, F, PSNY, STLAP.FP, STLA, AML.LN, MSIL.IN, RIVN estimate is Adjusted EPS; 2015.HK valuation is ; TVSL.IN, BJAUT.IN, HMCL.IN, MM.IN, VOW3.GR, RNO.FP, BMW.GR, MBG.GR, P911.GR, RACE, VOLCARB.SS, GM, F, STLAP.FP, STLA, AML.LN, MSIL.IN valuation is Adjusted P/E (x); PSNY, RIVN valuation is EV/Sales (x); 002466.CH, 9696.HK, 7269.JP, 7203.JP, 7267.JP, 7201.JP, 7261.JP, 7270.JP, 6902.JP, 7259.JP base year is 2023; MSIL.IN base year is 2025;

Source: Bloomberg, Bernstein estimates and analysis.

Ticker	Rating		2 Jun 2025 Closing Price	Price Target	TTM Rel. Perf.		Reported EPS 2024A	2025E	2026E	Reported P/E (x) 2024A	2025E	2026E
7269.JP (Suzuki)	O	JPY	1,738.00	2,300.00	(6.8)%	JPY	138.39	215.65	201.67	12.6	8.1	8.6
7203.JP (Toyota)	M	JPY	2,675.00	2,600.00	(18.6)%	JPY	365.94	387.92	330.15	7.3	6.9	8.1
7267.JP (Honda)	M	JPY	1,423.50	1,250.00	(18.0)%	JPY	225.88	198.64	195.07	6.3	7.2	7.3
7201.JP (Nissan)	U	JPY	367.00	250.00	(34.2)%	JPY	110.47	(25.32)	32.40	3.3	(14.5)	11.3
7261.JP (Mazda)	U	JPY	875.00	**650.00**	(44.1)%	JPY	66.93	**199.53**	**187.84**	13.1	4.4	4.7
OLD				550.00				180.87	18.98			
7270.JP (Subaru)	U	JPY	2,648.00	2,000.00	(24.2)%	JPY	509.18	456.39	382.21	5.2	5.8	6.9
6201.JP (Toyota Industries)	O	JPY	18,400	18,750	26.5%	JPY	856.96	863.23	922.02	21.5	21.3	20.0
6902.JP (Denso)	M	JPY	1,913.00	1,900.00	(23.9)%	JPY	104.97	160.06	179.55	18.2	12.0	10.7
7259.JP (Aisin)	M	JPY	1,789.50	1,350.00	(5.3)%	JPY	336.93	84.01	172.10	5.3	21.3	10.4
ASIAX			1,358.16									
SPX			5,935.94									
EDM			1,432.59									
JPL			1,789.83									

PRICE TARGET CHANGE / ESTIMATE CHANGE IN BOLD

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended

TVSL.IN, BJAUT.IN, HMCL.IN, MM.IN, VOW3.GR, RNO.FP, BMW.GR, MBG.GR, P911.GR, RACE, F, PSNY, STLAP.FP, STLA, AML.LN, MSIL.IN, RIVN estimate is Adjusted EPS; 2015.HK valuation is ; TVSL.IN, BJAUT.IN, HMCL.IN, MM.IN, VOW3.GR, RNO.FP, BMW.GR, MBG.GR, P911.GR, RACE, VOLCARB.SS, GM, F, STLAP.FP, STLA, AML.LN, MSIL.IN valuation is Adjusted P/E (x); PSNY, RIVN valuation is EV/Sales (x); 002466.CH, 9696.HK, 7269.JP, 7203.JP, 7267.JP, 7201.JP, 7261.JP, 7270.JP, 6902.JP, 7259.JP base year is 2023; MSIL.IN base year is 2025;

Source: Bloomberg, Bernstein estimates and analysis.

INVESTMENT IMPLICATIONS

EV sales for 2025 are off to a better than expected start. While expectations have been reset for the industry, growth for 4M25 was 34% y-o-y which is higher than our expected 20-25% growth for the year (vs. 26% last year). In April the sales growth of EVs in China, Europe, and RoW has exceeded 30% YoY, while demand in the US has stagnated. Despite high sales penetration rates, China EV growth remains healthy, partly helped by new autonomous driving features. We do however worry about the significance of a new price war and whether that will stimulate sales or is a pre-emptive move to head off slower growth. On the other hand, Tesla sales were notably weaker, particularly in Europe. Outside of China the growth rate of PHEV sales exceeded BEV, but BEV demand remained stronger in China. Among the battery makers, SVOLT, Gotion and BYD all started the year with strong sales growth, while Panasonic was flat and Samsung SDI continues to post negative sales growth. CATL remains the industry leader with 34% sales growth YTD and 36% market share.

Chinese Autos: We hold a cautiously optimistic view of the sector. China's auto sales in 1H 2025 have trended above expectations, which was boosted by the revamped trade-in policy and local government subsidies, accelerated new product launches, and increased OEM promotions. Policy support could help sustain stronger demand through the rest of 2025, though year-on-year comparisons will become more difficult from late Q3. We also expect exports will continue to be a growth driver, albeit at a more moderate growth rate than previous years. We forecast industry wholesale volumes to grow by 1% and reach c.27.5mn units in 2025, comprising c.22mn units (flat yoy) for the domestic market and c.5.5mn units (+10% yoy) for exports. *(For our 2025 outlook, please refer to:* Chinese Autos: 2025 Outlook. The year of deepening rifts — Few winners and many losers*)*

The long term secular growth outlook for EVs remains intact and even though EV transition has come to the mass adoption phase in China, we forecast EV sales growth will be c.25% for 2025 and drive EV penetration to 60%. We expect competition within the domestic market to remain intense and put pressure on pricing and profitability. Meanwhile, we believe overseas markets will present a strategic growth opportunity. For our EV names, **we rate BYD, Xiaomi, and Li Auto Outperform**, and **XPeng and NIO Market-Perform**. Within our traditional Chinese OEMs coverage, we rate **Geely Outperform and Great Wall, GAC, and SAIC Market-Perform**. *(For our latest monthly tracker, please refer to:* Chinese Autos: Momentum remains strong — April retail vol. +9.8% yoy, EV sales penetration 51%)

European Autos:

BEV sales in Europe (EU, EFTA and the UK) rose by 28% yoy in 4M25 while the overall market was down by 0.4% according to data from ACEA. The growth in BEVs, in combination with a decline in the overall market, mean that the BEV share of the overall market rose to 17.0% in 4M25 from 13.3% in 4M24. The proposal from the European Commission on 3 March (Quick Take: CO2 emissions targets delayed - some common sense from the common market) to allow companies to bank or borrow from their fleet emissions vs the target over a three-year window (2025-27) was confirmed by the European Parliament on 27 May. This theoretically reduces the pressure on European OEMs to push/over-incentivise BEV sales in 2025, and we might see a reduction in the growth rate for European BEV sales in the coming months. Most OEMs have argued that the cadence of their new BEV launches will have their strongest impacts from 2026 onwards. However, when asked at the 1Q25 results stage if VW intended to ease off the promotion of its current ID family of BEVs in Europe, the response was an emphatic No; although its new lower priced ID.2 coming in 2026 and ID.1 coming in 2027 could be expected to generate strong momentum, VW could not afford to ease off in 2025 as even if the phase-in was agreed, VW still had to maximize its BEV sales every year of the three-year period.

The picture is mixed by OEM in Germany, with BMW brand BEV sales up by 42.8% yoy in 4M25 while Mercedes BEV sales were down by 10.9%. VW brand BEV sales surged by 140% in Germany in 4M25 causing its share of the German BEV market to leap to 22.2% from 13.2% in 4M24. Audi was up by 53.1%. Meanwhile, Tesla BEV sales were down by 60.4% yoy in Germany in 4M25, causing its share of German BEV sales to drop to 3.7% from 13.2% in 4M24. VW had lowered the price of the base ID.3 Pure since 1 October 2024 in Germany from €36,900 to €33,330 but then on top to the end of the year was offering a further €3,570 discount which brought the price below €30,000. Discounts of between €3,500 and €6,000 are offered across the entire ID family. These offers were originally intended to run until 31 December 2024, were then extended to 31 March 2025, and are still being offered. Aside from a plentiful inventory of previous design Model Y from inventory offered with 0% financing and free supercharging for a year, Tesla is quoting as of 3 June 2025 same month deliveries of all three versions of its refreshed Model Y in Germany. The changeover on the Model Y may have accounted for some earlier buyer hesitation but cannot fully explain Tesla's very poor start to the year in Europe (4M25) and its weak preliminary May 2025 results (Norway excepted) from some early reporting markets. Tesla's sales in Europe in 4M25 slumped by 37.3% yoy, vs the 28% rise in overall BEV sales across the market. As we noted, some customers may have held back for the refreshed Model Y, and European sales of the Model Y were down by 48% yoy in 4M25 according to DataForce, but sales of the Model 3, refreshed in 4Q23, were down by 17% yoy in 4M25 as well. Despite the availability of the refreshed Model Y, Tesla sales in the Netherlands in May 2025 were down by 36.1% (-51% yoy in 5M25), down by 26.6% in Spain (-19% yoy in 5M25), down 67.2% in France (-47.2% yoy in 5M25) and down by 53.7% in Sweden (-59.1% yoy in 5M25). In Norway, Tesla sales surged by 212.5% yoy in May 2025, taking the 5M25 sales to +8.3%. Given that the overall Norwegian market grew by 30.6% yoy in 5M25, this meant that Tesla's market share slipped to 12.9% from 15.6% in 5M24.

We rate Ferrari, BMW and Renault Outperform, and VW, Mercedes, Stellantis, Porsche AG, and Volvo Car (which notably now has similar scale in EVs to VW and Mercedes) Market-Perform.

U.S. Autos: While the U.S. market's excitement for electric vehicles has abated in recent months, the data shows retail sales continue to grow at double-digit rates. Since Oct '24, xEV growth has been above 10% with Mar '25 at 164k units sold and a growth of 18% yoy. The March data likely contains some pull-forward ahead of tariff increases for U.S. sales and we would expect a similar development for April as well. With continued EV expansion this puts North America on track to reaching a full-year sales penetration in the low teens.

The current focus of the market, however, are the **automotive tariffs and emerging trade war**. While there are dire implications for the wider sector, we think that regardless of the tariff outcome, the U.S. will further slow in EV growth. The cost pressures rising tariffs will put on the U.S. industry will reduce the available funding for loss-making EV businesses, limit investments, and pull executives attention into other directions. The even higher tariffs on China, will further **pressure affordability** as LFP batteries (overwhelmingly sourced from China) will become less cost efficient for U.S. manufacturing. The focus in upcoming months will need to be on mitigation and supply chain reorganization - EV projects and growth will have to take a back seat.

We rate Stellantis Market-Perform, we rate Ford, General Motors, Rivian and Polestar Underperform.

India Autos: EVs product launches will be more visible in the PV space in FY26 while in 2Ws traditional OEMs will continue to strengthen product and distribution presence as against an array of startups of which only one will remain relevant. Upcoming IPOs of several EV startups should be considered with skepticism. From a growth perspective we expect E-PVs to deliver 170K units in FY26 from 110K from FY25 with new launches expected from Maruti, Hyundai, Tata and M&M. For 2Ws, we expect the market to scale up to 1.7mn units in FY26 from 1.15mn in FY25. We are Outperform on Bajaj as we see e-scooters as an incremental opportunity. We like TVS (Market-Perform on valuation) but see a risk to ICE scooter volumes as EV adoption increases, even though it is performing well in EVs and should be able to defend some moderation over time. HeroM (Market-Perform) has not yet demonstrated success in EVs. For E-4Ws, we see EV adoption to increase meaningfully in FY26, led by strong product pipeline. Maruti (Outperform) is our top pick in the 4Ws space.

Japan Autos & Auto Parts: The mid-to-long term xEV transition for Japanese automakers remain as a sector-wide challenge as they are still in early stages of BEV expansion. However, market position in HEV will support top-line growth in the near term and the 'multi-pathway' approach carried out by selective automakers should allow agile positioning in volatile market conditions. We believe xEV (including HEV, PHEV, BEV, FCEV) sales penetration (as % of total vehicle sales) to pickup supported by HEVs in the near term, BEVs in the long term with Japanese automakers projected to have ~296 xEV models in their lineup by FY3/31 (vs ~118 models as of FY3/24). We expect Japanese automakers' xEV sales penetration to reach 73% by 2030 (HEV sales penetration of ~34%, BEV sales penetration of ~23% by 2030). From xEV transition perspective, Toyota seems to be the most competitive with exposure across all powertrains (global leader in HEV, BEV platform sharing with the alliance, front-runner of FCEV). However, due to market concerns and potential material impact from US tariffs, we rate Toyota Market-Perform. Suzuki is our only Outperform rating as it is most primed to benefit from Indian market growth with no exposure to US tariffs and moderate outlook on its xEV transition capabilities. We rate Suzuki Outperform; Toyota and Honda Market-Perform; Nissan, Mazda, and Subaru Underperform.

For auto parts, Denso (Market-Perform) will most likely benefit from xEV/SDV transition, but US tariffs could indirectly pose risks. Toyota's production recovery and HEV demand rebound will be the near term tailwinds for Aisin (Market-Perform), but we are more cautious on its long term xEV transition capabilities. Toyota Industries is our only Outperform rating among our auto parts coverage with corporate governance reforms regarding the 9.1% Toyota stake as the key catalyst.

Energy storage: Although China growth will likely be slower in 2025 given the high sales penetration, we expect overall battery demand growth to be similar to 2024 at 30%. 4M2025 xEV battery demand increased by 36% y-o-y, with China was up by +43% and ex-China +27% y-o-y. The battery market remains split between leading Chinese battery makers who are thriving and Korean companies who are not. The first half of 2025 should continue to be challenging, although there is a possible recovery in 2H25.

For now however CATL (Outperform, CNY340) seems like the most investable stock the sector at a forward P/E of 15x (with 25-30% EPS growth). We also rate Tianqi Outperform (HKD34 for H-share and CNY47 for A-share, Outperform) on a potential lithium price recovery in 2026. For Korean stocks, the near term could remain challenging. SDI and LG Chem (both on 10x forward P/E) offer better value than LGES with much of the downside priced in now. Since 2H24, SDI's EV battery sales growth has turned negative. However, among the battery makers we cover, we expect SDI to have the fastest capacity growth in 2025 (Stellantis JV plant), which will improve this situation. We rate Samsung SDI (KRW250,000), and LG Chem (KRW310,000) Outperform. We rate LGES Market-Perform with a price target of KRW307,000. We rate Posco Future M (KRW110,000) and EcoPro BM (KRW88,000) Underperform.

European Auto Parts (Tyres). EV adoption is a tailwind to the tyremakers, as EVs require larger, more technical tyres due to their higher weight and torque. Premium tyres are a key profit pool for the tyre industry, particularly in the high-margin Replacement channel (which typically follows OE production with a lag of 2-3 years). Premium tyres drive mix shift, margin and interestingly valuation. In our view, today's slowdown in EV adoption is a small headwind to the tyremakers, but premiumisation will continue to be driven by SUVs and high-end vehicles in the meantime. While our coverage have good market share in premium tyres in China, North America and Europe are larger profit drivers so a reacceleration of EV penetration in Europe is positive, while a stagnation in North America is a challenge. Replacement tyre demand continues to be strongest in >18" premium segments implying strong demand from the installed base of EVs sold in the last 3-4 years. We rate Michelin and Bridgestone Outperform, Continental and Pirelli Market-Perform.

DETAILS

The data we use comes from various sources and our analysis looks at registration and sales (by OEMs and countries) figures from multiple sources. The database is updated on a monthly basis with a one-month lag. For China, the volumes reflect retail vehicle registrations and excludes overseas exports.

The following note is divided into 6 sections:

1. GLOBAL PASSENGER XEV SALES OVERVIEW (INCL. ALL BATTERY CHEMISTRIES)

2. PASSENGER XEV SALES BY REGION

3. GLOBAL PASSENGER XEV SALES BY OEM

4. BATTERY CHEMISTRY

5. EV BATTERY DEMAND (PASSENGER EVS)

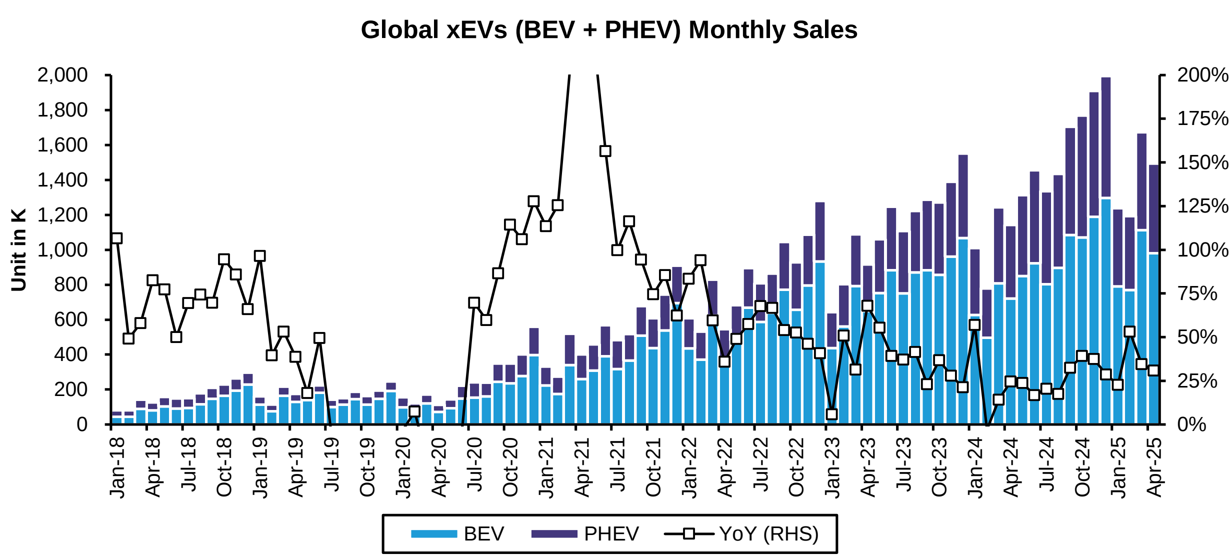
6. EV TRENDS IN INDIA

1. GLOBAL PASSENGER XEV SALES OVERVIEW: 2025 YTD XEV SALES 5.6M (+34% YOY)

- April global xEVs (BEV + PHEV, including all battery chemistries) sales were **1.49M** (+31% YoY, -11% MoM). BEV sales were +36% YoY to 981k units (+38% in 2025YTD) while PHEV sales were +22% to 513k units (+28% in 2025YTD). 2025YTD global xEVs sales reached 5.6M, +34% YoY. (Exhibit 1 to Exhibit 4).

- In MWh terms, total monthly LiB sales were 74GWh, +34% YoY, -11% MoM (2025YTD: 273GWh, +36% YoY), most of which continues to come from BEVs (Exhibit 5).

EXHIBIT 1: **Monthly global xEVs (BEV + PHEV) sales 1.49M (+31% YoY, -11% MoM)**



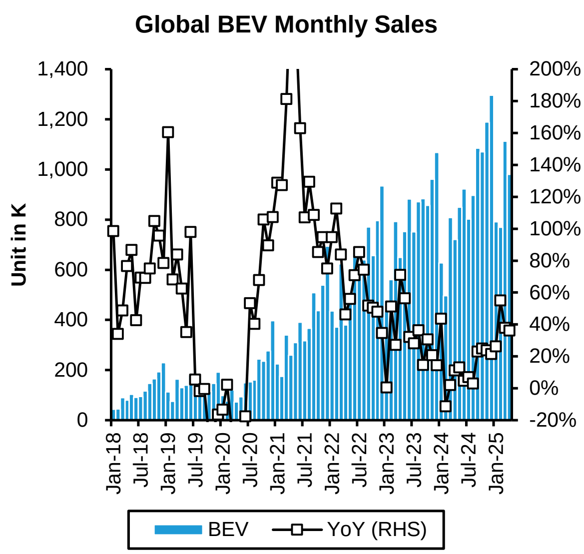
Source: SNE Research, Bernstein analysis

EXHIBIT 2: **Monthly xEV sales (BEV+PHEV)**

		Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25
Units in K	China	873.8	982.1	612.7	371.9	699.8	693.9	830.4	892.0	875.1	992.9	1,152.5	1,247.7	1,350.8	1,375.2	770.8	714.9	994.0	937.0
	Europe	291.4	318.0	206.4	213.0	309.5	231.0	238.4	313.6	225.0	190.7	313.5	269.4	291.8	334.4	255.0	256.7	390.4	309.5
	North America	143.9	166.3	118.6	130.4	139.6	146.1	167.9	161.5	149.5	167.4	148.2	159.6	164.5	182.2	124.3	124.0	163.1	145.6
	RoW	79.8	84.7	71.6	63.3	94.5	70.6	75.5	88.7	85.0	83.8	90.3	92.0	102.3	102.7	87.7	96.3	125.3	101.6
	Global	1,388.9	1,551.1	1,009.3	778.6	1,243.5	1,141.7	1,312.3	1,455.8	1,334.7	1,434.9	1,704.5	1,768.6	1,909.5	1,994.5	1,237.8	1,191.9	1,672.8	1,493.9
YoY	China	35%	45%	87%	(16%)	24%	32%	38%	28%	32%	36%	52%	57%	55%	40%	26%	92%	42%	35%
	Europe	2%	(24%)	27%	13%	(5%)	13%	(7%)	(1%)	(6%)	(30%)	6%	3%	0%	5%	24%	21%	26%	34%
	North America	43%	26%	9%	11%	13%	14%	22%	7%	3%	12%	(3%)	12%	14%	10%	5%	(5%)	17%	(0%)
	RoW	48%	57%	62%	15%	29%	26%	16%	12%	37%	25%	16%	26%	28%	21%	22%	52%	33%	44%
	Global	28%	21%	57%	(3%)	14%	25%	24%	17%	20%	17%	32%	39%	37%	29%	23%	53%	35%	31%

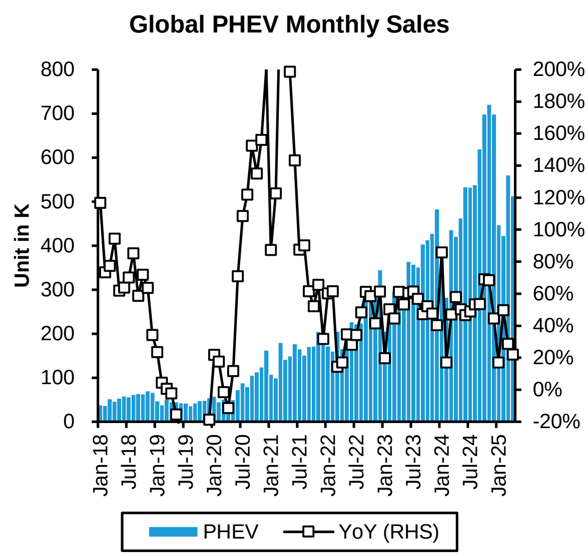
Source: SNE Research, Bernstein analysis

EXHIBIT 3: **BEV sales were +36% to 981K (+38% YTD)**



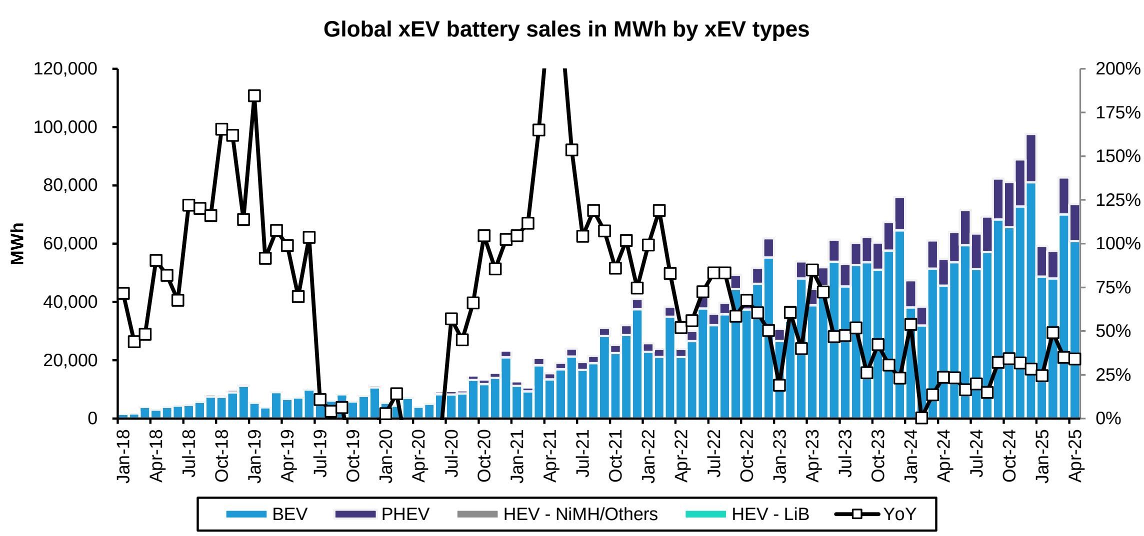
Source: SNE Research, Bernstein analysis

EXHIBIT 4: **PHEV sales were +22% to 513K (+28% YTD)**



Source: SNE Research, Bernstein analysis

EXHIBIT 5: **Total monthly LiB sales to EVs were 74GWh (+34% YoY, -11% MoM)**



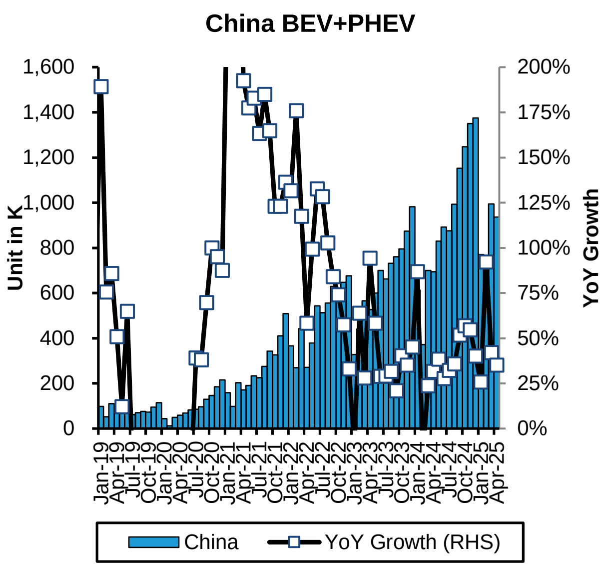
Source: SNE Research, Bernstein analysis

2. PASSENGER XEV SALES BY REGION: CHINA SALES +35% YOY WHILE EUROPE REBOUNDED

- During the month, **China** accounted for 63% of global EV sales with 937K units sold (excluding exports), +35% YoY (2025YTD: 3.4M, +44% YoY). Pure BEVs accounted for 63% of the China's total xEV sales.
- **Europe** sales were +34% YoY at 310K (2025YTD: 1.2M, +26% YoY), representing 21% of global sales. BEV/PHEV markets were +30%/+43% YoY during the month (Exhibit 7).
- **North America** sold 146K, +0% YoY (2025YTD: 0.6M, +4% YoY), representing 10% of global sales. BEV/PHEV markets were -3%/+9% YoY during the month (Exhibit 8).
- **Rest of the World**sold 102K units, +44% YoY(Exhibit 9).

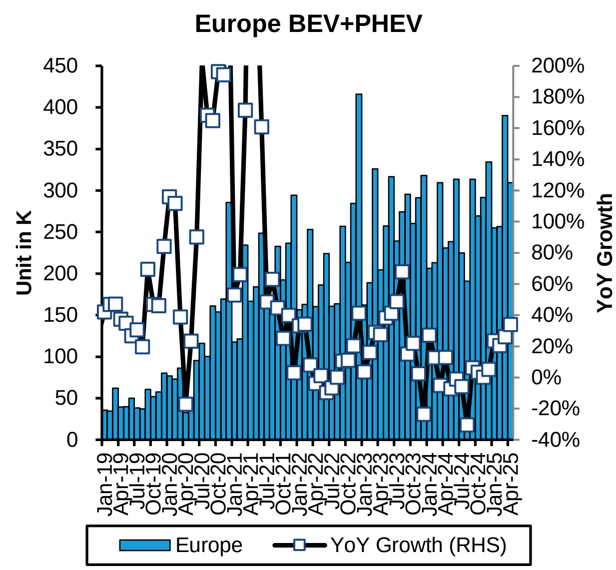
- **Passenger EV battery demand by region:** Battery sales in China were 41.5GWh (+42% YoY), Europe were 16.0GWh (+35% YoY), N. America were 10.8GWh (+8% YoY). 2025YTD battery demand was up +35% YoY at 273GWh (Exhibit 10).

EXHIBIT 6: **Monthly BEV+PHEV production in China was 937K,+35% YoY**



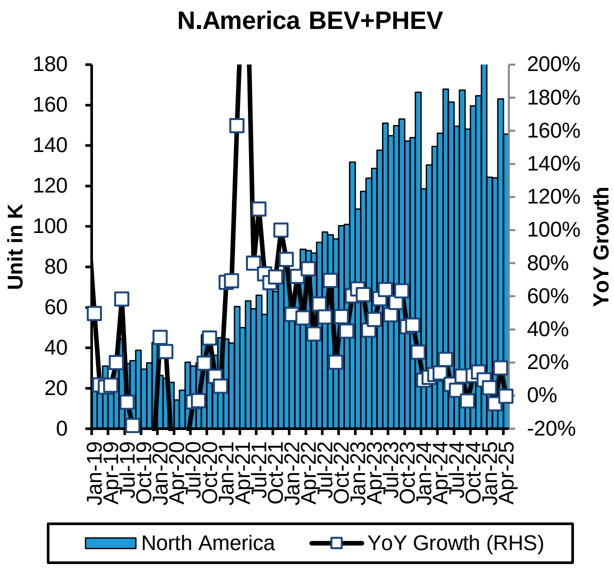
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 7: **Monthly BEV+PHEV sales in Europe came in at 310K, +34% YoY**



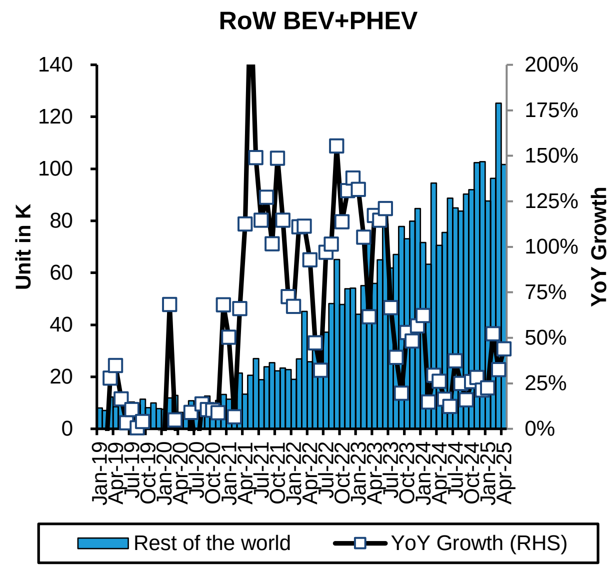
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 8: **Monthly BEV+PHEV sales in N. America came in at 146K, +0% YoY**



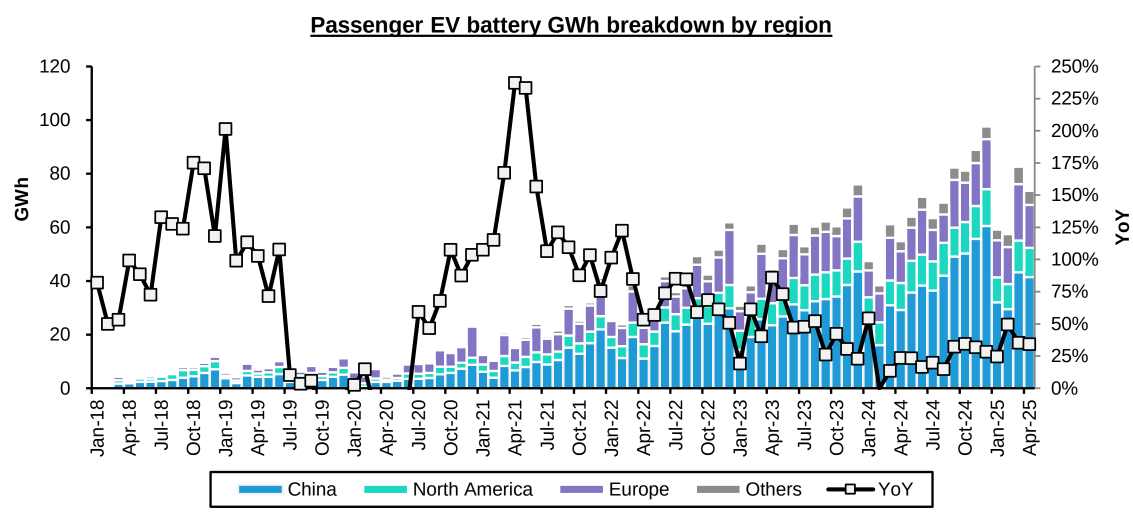
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 9: **Monthly BEV+PHEV sales in RoW was 102K, +44% YoY**



* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 10: **Passenger EV battery demand by region: Monthly battery demand was +42% YoY in China. N. America was +8% YoY and Europe +35% YoY**



* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

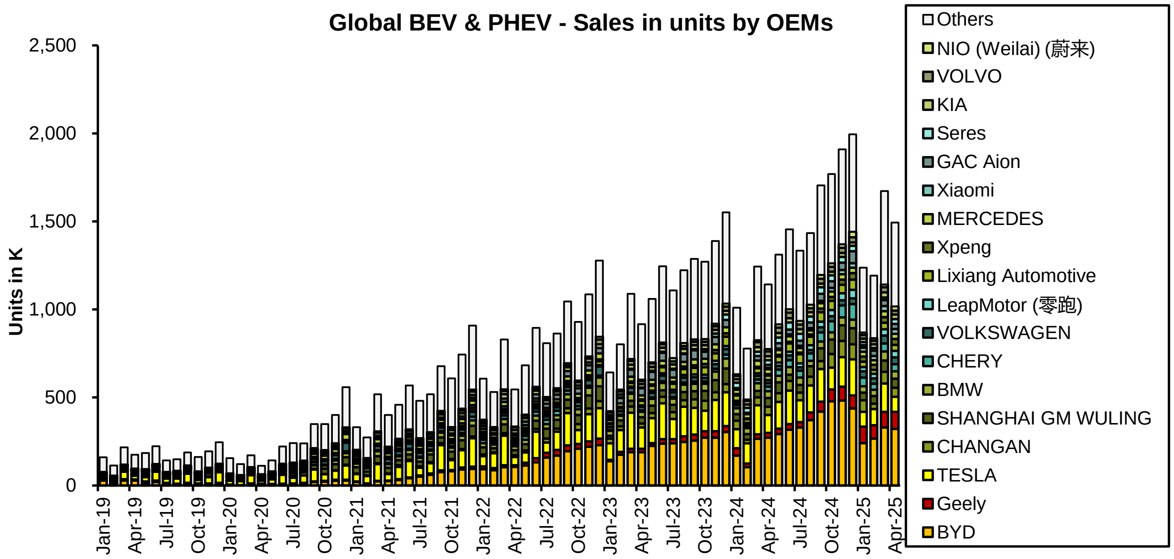
3. GLOBAL XEV SALES BY OEM: BYD, TESLA AND GEELY LED THE MARKET IN MONTHLY SALES

- During the month, BYD (based on SNE estimates) led the market with 321k sold (+18% YoY) followed by Geely with 96k units (+249% YoY), Tesla with 86k units (-15% YoY), Changan with 53k units (+15% YoY), Shanghai GM Wuling with 52k units (+2% YoY), and BMW with 42k units (+9% YoY) (Exhibit 11).

- Global BEV sales reached 981K units, +38% YoY. During the month, Tesla sold 52k Model Y and 28k Model 3 followed by BYD's Seagull (49k) and Yuan (29k), Geely's Star Wish (36k), Hongguang MINI (32k), and Xiaomi SU7 (29k) (Exhibit 13).

- Global PHEV sales rose +22% YoY with 513K units sold. BYD's Song (43k), Denza (14k), Qin L (12k), Li Auto's Ideal (34k units), Geely's Galaxy (25k), and AITO's Wenjie (25k) were top sellers this month (Exhibit 14).

EXHIBIT 11: **BEV+PHEV sales by OEM – Monthly sales were led by BYD, Geely and Tesla**



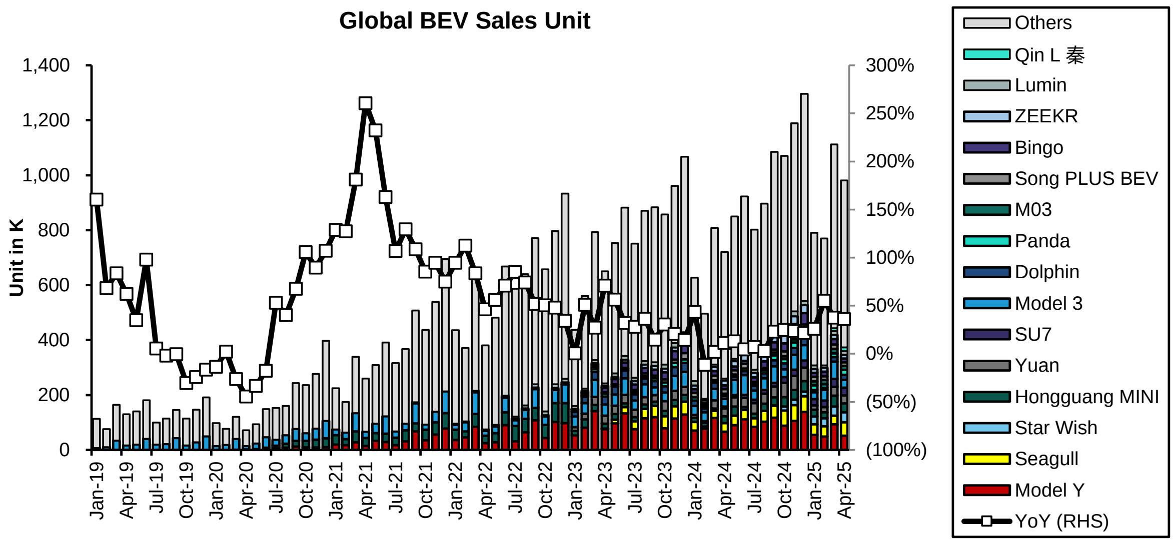
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 12: **Brands ranking by Passenger EV sales: BYD continue to lead while Tesla lost share. Geely, Volkswagen, Xiaomi, and XPeng gained market share. Volkswagen, BMW, Volvo and Mercedes led among European brands**

	2019	2020	2021	2022	2023	2024	2025
BYD	8.8%	5.3%	9.3%	18.0%	20.2%	23.1%	20.7%
TESLA	17.5%	16.1%	14.5%	13.0%	13.3%	10.5%	7.5%
Geely	3.1%	1.0%	1.2%	2.8%	2.2%	3.1%	6.3%
CHANGAN	1.8%	0.7%	1.2%	2.4%	3.3%	3.9%	3.9%
SHANGHAI GM WULING	2.6%	5.6%	6.9%	5.8%	4.0%	4.0%	3.6%
CHERY	2.2%	1.3%	1.5%	2.2%	0.9%	2.9%	3.0%
BMW	6.5%	5.6%	4.3%	3.6%	3.5%	2.8%	2.9%
VOLKSWAGEN	2.1%	5.4%	3.9%	2.4%	2.2%	1.6%	2.7%
Xpeng	0.8%	1.0%	1.6%	1.2%	1.1%	1.1%	2.3%
Lixiang Automotive	0.1%	1.1%	1.4%	1.3%	2.8%	2.9%	2.2%
LeapMotor (零跑)	0.1%	0.4%	0.7%	1.1%	1.1%	1.7%	2.1%
MERCEDES	1.5%	4.8%	3.6%	2.5%	2.4%	2.0%	2.0%
GAC Aion	1.6%	1.8%	1.9%	2.7%	3.5%	2.2%	1.9%
Xiaomi	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	1.9%
KIA	2.2%	2.8%	2.5%	2.3%	1.9%	1.6%	1.7%
VOLVO	1.9%	3.3%	2.6%	1.8%	1.7%	1.9%	1.7%
Seres	0.0%	0.0%	0.0%	0.0%	0.8%	2.3%	1.3%
NIO (Weilai) (蔚来)	0.9%	1.5%	1.4%	1.2%	1.1%	1.3%	1.2%

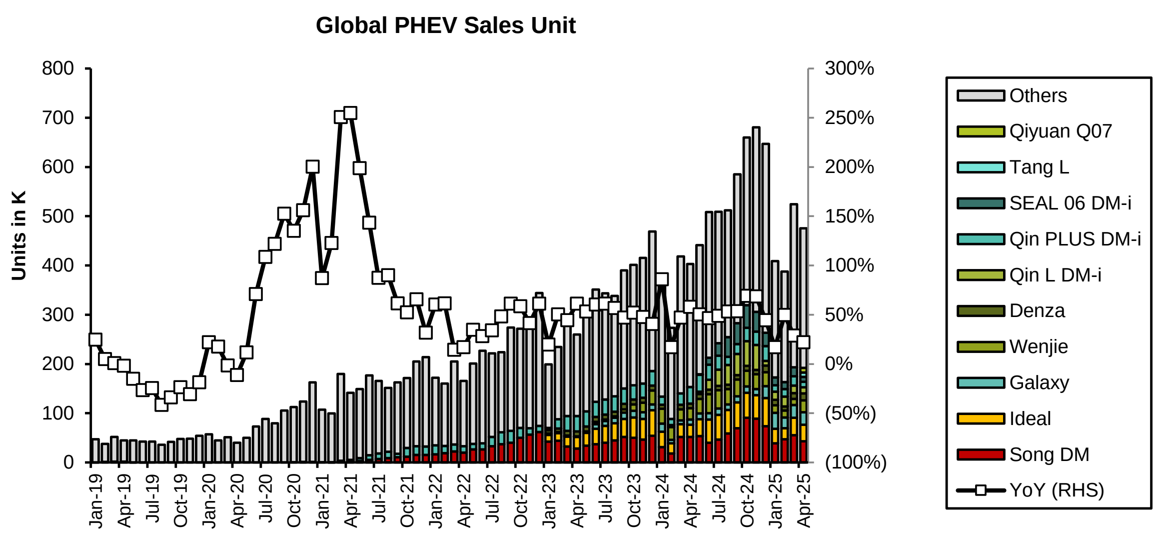
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 13: **Global BEV sales reached 981K units, +38% YoY. During the month, Tesla sold 52k Model Y and 28k Model 3 followed by BYD's Seagull (49k) and Yuan (29k), Geely's Star Wish (36k), Hongguang MINI (32k), and Xiaomi SU7 (29k)**



* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 14: **Global PHEV sales rose +22% YoY with 513K units sold. BYD's Song (43k), Denza (14k), Qin L (12k), Li Auto's Ideal (34k units), Geely's Galaxy (25k), and AITO's Wenjie (25k) were top sellers this month**



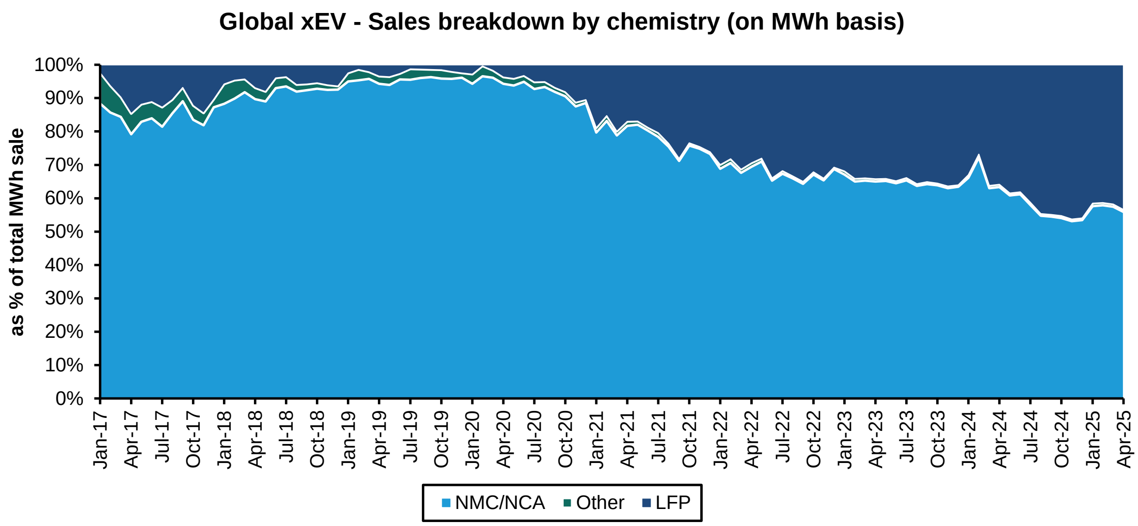
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

4. BATTERY CHEMISTRY

- In Apr'25 NMC batteries accounted for 56% of global xEV installations (on MWh basis) compared to 63% over the same period last year. LFP represented 44% of global xEV installations compared to 36% over the same period last year.

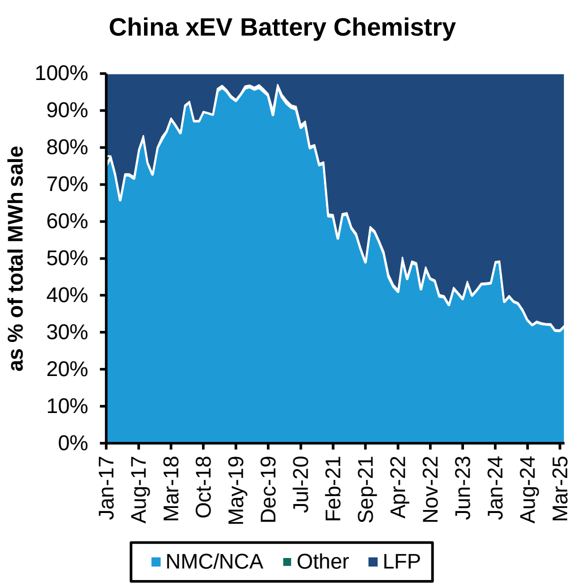
- NMC accounted for 32% of China's Apr'25 xEV battery installations (40% in Apr'24) while LFP was 68% (60% in Apr'24). Outside of China, NMC accounted for 86% of Apr'25 xEV battery installations (90% in Apr'24) while LFP was 12% (9% in Apr'24).

EXHIBIT 15: **In Apr'25 NMC batteries accounted for 56% of global xEV installations (on MWh basis) compared to 63% over the same period last year. LFP represented 44% of global xEV installations compared to 36% over the same period last year**



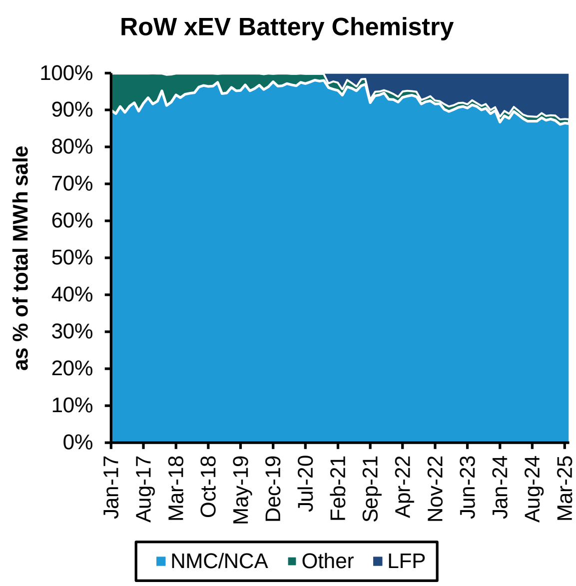
Source: SNE, Bernstein analysis

EXHIBIT 16: **NMC accounted for 32% of China's Apr'25 xEV battery installations (40% in Apr'24)**



Source: SNE, Bernstein analysis

EXHIBIT 17: **NMC accounted for 86% of RoW Apr'25 xEV battery installations (90% Apr'24)**



Source: Company data, Bernstein analysis

5. EV BATTERY DEMAND (PASSENGER EVS): PASSENGER EV BATTERIES VOLUMES ARE UP 34% Y-O-Y TO 74GWH

MONTHLY PASSENGER EV BATTERY VOLUMES UP 34% YOY TO 74GWH (LIB ONLY)

- **CATL (OP, PT CNY340) retains its leading position, with monthly installations of 25.2GWh LiBs (+33% YoY) based on passenger EV production (98GWh in 2025YTD, +34% YoY). CATL's market share of xEV PV batteries was 35.7% in 2025YTD (2024: 35.9%).** CATL has a supply deal with Tesla to 2025 and have been deploying LFP and M3P batteries across all Tesla's standard range vehicles globally. CATL has also started mass production of its next generation Qilin battery (CTP 3.0) in 2023. The Qilin battery can achieve a pack energy density of 255Wh/kg using NCM and 160Wh/kg for LFP which is higher than most commercialized EVs in the market today. In addition to Qilin, CATL has also started mass production of the world first fast charging 4C LFP batteries called Shenxing at the end of 2023 with EVs equipped with Shenxing early 2024. CATL will continue to deploy M3P and Na-ion batteries to the market since the product launch in 2024.

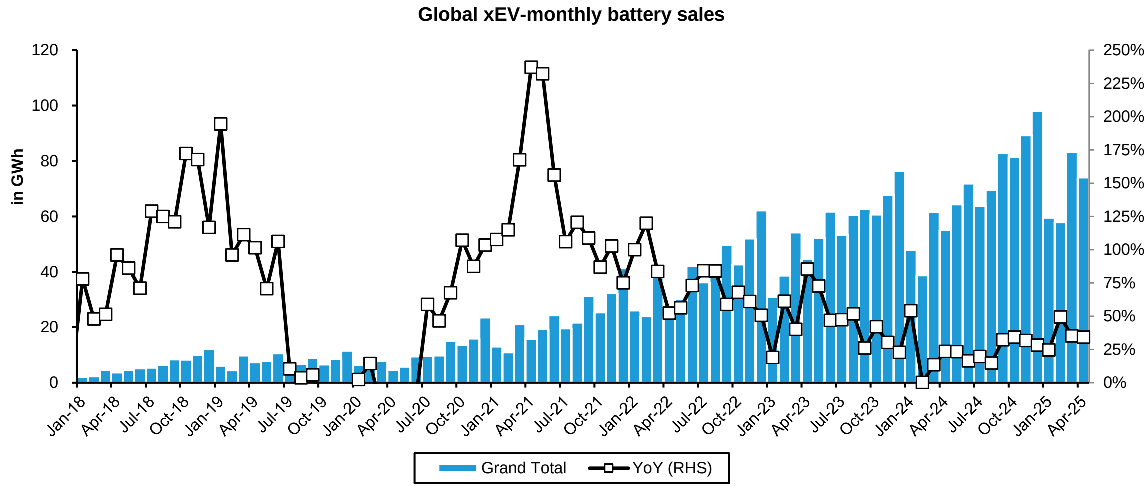
- **LGES** (**MP, PT KRW307,000) LiB monthly sales for passenger vehicles were 8.0GWh, +27% YoY (31GWh in 2025YTD, +17% YoY). LGES's market share of xEV PV batteries was 11.3% in 2025YTD (2024: 11.7%).** LGES primary installations are being driven primarily by the Tesla Model 3 and Model Y, VW's ID.4 and ID.3, and Renault's Zoe (Exhibit 31 to Exhibit 34). Battery recalls and production halt of GM Bolt in 2021 have impacted sales in 2022. Sales growth have returned with start up of new Ultium JV plants in 3Q22. LGES has a JV with GM, Stellantis and Honda to build battery cell manufacturing plants and supply batteries to these OEMs in the US (240GWh of capacity in the US by 2025) which should benefit from the US IRA.

- **Panasonic (not covered) delivered 2.2GWh of LiBs in the month, -15% YoY (9GWh in 2025YTD, -9% YoY) (**Exhibit 35 **to Exhibit 36). Panasonic's market share of xEV PV batteries was 3.4% in 2025YTD (2024: 4.2%).** Starting from 2020, Tesla's new Shanghai Gigafactory stopped using Panasonic's battery for Model 3 in China (replaced with LGES and CATL). Panasonic and has a JV with Toyota under Prime Planet Energy & Solutions (PPES) which produces prismatic cells.

- **BYD (OP, PT HKD460) LiB sales for passenger EVs were 15.4GWh in the month, +53% YoY (51GWh in 2025YTD, +57% YoY) (Exhibit 38 to Exhibit 41). BYD's market share of xEV PV batteries was 18.6% in 2025YTD (2024: 18.2%).** In May 2021, BYD announced that it will equip all its EVs with in-house batteries in a move aimed at expanding its battery business – the company have started selling its batteries to other companies starting 2H21.

- **Samsung SDI (OP, PT KRW250,000) LiB sales were 2.6GWh in the month for passenger EVs, -2% YoY (10GWh in 2025YTD, -11% YoY) (Exhibit 42 to Exhibit 45). SDI's market share of xEV PV batteries was 3.6% in 2025YTD (2024: 3.5%).** Samsung SDI has formed a JV in the US with Stellantis and GM for productions starting in 2025/26. The company will also supply batteries to Hyundai starting 2026.

EXHIBIT 18: **Monthly total passenger battery sales for xEV (BEV + PHEV) were at 74GWh (+34% YoY) (YTD: 275GWh, +35% YoY)**



* Only Lithium-based battery chemistries are included in this data set. xEVs captured in this data set includes BEV, PHEV, and HEV
Source: SNE Research, Bernstein analysis

EXHIBIT 19: **Global monthly passenger EV battery installation y-o-y**

Global	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	YTD
CATL	22%	28%	19%	34%	13%	28%	37%	30%	22%	25%	43%	37%	33%	34%
BYD	31%	25%	25%	26%	37%	60%	55%	57%	46%	41%	145%	38%	53%	57%
LGES	6%	-1%	-2%	-13%	-13%	8%	5%	1%	9%	8%	9%	20%	27%	17%
SK On	26%	29%	17%	11%	11%	24%	23%	24%	21%	37%	32%	30%	7%	25%
CALB	50%	81%	36%	-17%	-2%	-2%	4%	11%	25%	23%	57%	5%	-7%	12%
SDI	29%	-2%	-6%	-15%	-32%	-32%	-34%	-34%	-43%	-22%	-16%	-5%	-2%	-11%
Gotion	32%	88%	61%	52%	117%	136%	119%	129%	118%	50%	120%	105%	72%	82%
SVOLT	90%	123%	112%	172%	131%	146%	74%	90%	113%	51%	221%	144%	150%	125%
Panasonic	-29%	-16%	-23%	-22%	-17%	-15%	-12%	-9%	-8%	-13%	-16%	7%	-15%	-9%
Sunwoda	33%	58%	66%	73%	63%	131%	68%	97%	111%	-3%	49%	45%	25%	27%
EVE	6%	-31%	-12%	13%	-13%	13%	-16%	2%	32%	27%	86%	11%	47%	36%
TAFEL	439%	191%	256%	1%	1%	68%	58%	59%	80%	17%	217%	58%	189%	107%
TESLA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.m.	n.m.	n.m.	n.m.	299%	200%	337%
Farasis	67%	61%	11%	-3%	-20%	-2%	10%	-16%	-2%	-2%	22%	30%	-21%	n.a.
Jidian (Geely)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.m.	70%	71%	109%	185%	105%

* Only Lithium-based battery chemistries are included in this data set. xEVs captured in this data set includes BEV, PHEV, and HEV.

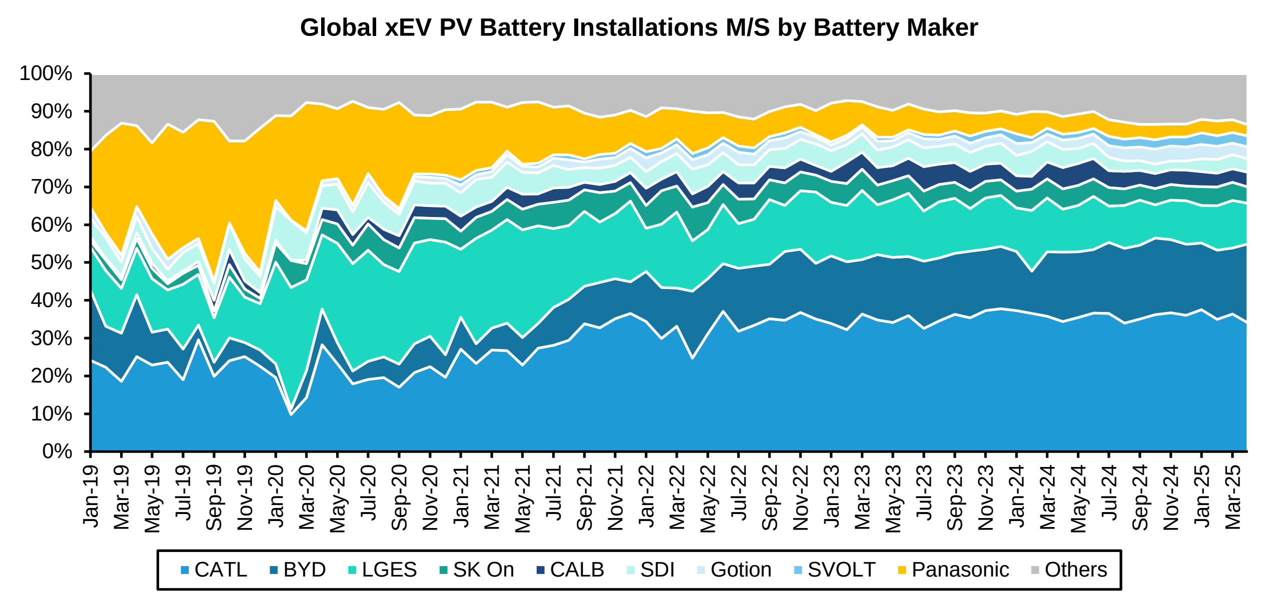
We define >500% growth as n.m.
Source: SNE Research, Bernstein analysis

EXHIBIT 20: **Global monthly passenger EV battery installation market share**

Global	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	YTD
CATL	34.4%	35.5%	36.6%	36.5%	34.0%	35.0%	36.2%	36.7%	36.0%	37.5%	35.0%	36.4%	34.1%	35.7%
BYD	18.3%	17.4%	16.8%	18.8%	19.8%	19.5%	20.3%	19.4%	18.9%	17.7%	18.3%	17.5%	20.8%	18.6%
LGES	11.4%	12.3%	14.1%	9.6%	11.3%	11.9%	8.8%	10.4%	11.5%	9.9%	11.7%	12.6%	10.8%	11.3%
SK On	5.4%	5.2%	4.7%	4.9%	4.4%	4.0%	4.3%	4.2%	3.9%	4.9%	5.0%	4.8%	4.3%	4.7%
CALB	5.6%	5.8%	5.4%	4.5%	4.6%	3.9%	4.0%	3.8%	4.2%	4.0%	3.6%	3.5%	3.9%	3.7%
SDI	4.8%	4.0%	4.0%	3.5%	2.7%	2.5%	2.5%	2.4%	2.4%	3.3%	3.7%	3.8%	3.5%	3.6%
Gotion	2.5%	2.6%	2.4%	3.1%	3.5%	3.6%	4.0%	3.9%	3.7%	3.8%	3.5%	3.0%	3.2%	3.3%
SVOLT	1.6%	1.6%	1.5%	2.5%	2.3%	2.5%	2.5%	2.5%	2.7%	3.1%	2.8%	2.8%	2.9%	2.9%
Panasonic	4.6%	4.9%	4.5%	4.4%	4.4%	3.5%	4.0%	3.3%	3.4%	3.6%	3.8%	3.4%	2.9%	3.4%
Sunwoda	2.3%	2.1%	2.3%	2.5%	2.3%	2.6%	2.1%	2.3%	2.6%	1.7%	1.6%	1.8%	2.1%	1.8%
EVE	1.6%	1.7%	1.6%	2.0%	1.8%	1.6%	1.5%	1.7%	2.1%	1.8%	1.9%	1.7%	1.7%	1.8%
TAFEL	0.7%	0.6%	0.8%	1.0%	1.3%	1.5%	1.6%	1.5%	1.4%	0.5%	0.6%	0.8%	1.5%	0.9%
TESLA	0.5%	0.5%	0.6%	1.6%	1.7%	1.3%	1.4%	1.1%	1.2%	1.0%	1.1%	0.8%	1.2%	1.0%
Farasis	1.9%	1.7%	1.2%	1.2%	1.2%	1.3%	1.4%	1.4%	1.5%	1.4%	1.4%	1.5%	1.1%	1.4%
Jidian (Geely)	0.5%	0.5%	0.5%	0.5%	0.5%	0.9%	1.1%	1.0%	0.7%	1.2%	0.9%	0.8%	1.1%	1.0%

* Only Lithium-based battery chemistries are included in this data set. xEVs captured in this data set includes BEV, PHEV, and HEV
Source: SNE Research, Bernstein analysis

EXHIBIT 21: **Global monthly passenger EV battery installation market share**



* Only Lithium-based battery chemistries are included in this data set. xEVs captured in this data set includes BEV, PHEV, and HEV
Source: SNE, Bernstein analysis

EXHIBIT 22: **Passenger EV battery installation market share: CATL maintained leading market share**

Global	2019	2020	2021	2022	2023	2024	2025YTD
CATL	22.9%	19.4%	30.5%	33.8%	35.4%	35.9%	35.7%
BYD	8.5%	6.0%	8.8%	14.9%	16.7%	18.2%	18.6%
LGES	12.8%	26.8%	21.7%	15.2%	14.4%	11.7%	11.3%
SK On	2.2%	5.9%	5.8%	6.0%	4.8%	4.6%	4.7%
CALB	1.6%	2.7%	2.9%	3.6%	4.8%	4.5%	3.7%
SDI	4.5%	6.8%	5.1%	5.1%	4.9%	3.5%	3.6%
Panasonic	30.5%	21.2%	12.8%	7.6%	6.4%	4.2%	3.4%
Gotion	1.8%	1.3%	1.9%	2.5%	2.0%	3.2%	3.3%
SVOLT	0.0%	0.5%	1.1%	1.3%	1.2%	2.2%	2.9%
Sunwoda	0.7%	0.1%	1.0%	1.9%	1.6%	2.3%	1.8%

* Only Lithium-based battery chemistries are included in this data set. xEVs captured in this data set includes BEV, PHEV, and HEV
Source: SNE Research, Bernstein analysis

EXHIBIT 23: **Passenger EV battery installation growth: Chinese battery makers gained the most**

Global YoY	2020	2021	2022	2023	2024	2025
SVOLT	n.a.	429%	104%	28%	124%	125%
Gotion	0%	214%	122%	15%	94%	82%
BYD	-5%	222%	185%	59%	36%	57%
CATL	13%	243%	88%	49%	26%	34%
Sunwoda	-72%	1417%	229%	19%	74%	27%
SK On	258%	115%	74%	15%	17%	25%
LGES	180%	76%	19%	34%	1%	17%
CALB	133%	130%	114%	89%	15%	12%
Panasonic	-7%	32%	1%	20%	-18%	-9%
SDI	99%	64%	70%	37%	-11%	-11%

* Only Lithium-based battery chemistries are included in this data set. * xEVs captured in this data set includes BEV, PHEV, and HEV
Source: SNE Research, Bernstein analysis

EXHIBIT 24: **China's Passenger EV battery installation market share**

China	2019	2020	2021	2022	2023	2024	2025
CATL	47.1%	40.0%	49.1%	42.8%	41.8%	42.1%	40.4%
BYD	17.5%	15.8%	18.7%	27.3%	29.6%	28.8%	28.8%
CALB	3.2%	7.2%	6.1%	6.7%	8.9%	6.5%	5.7%
Gotion	0.0%	0.0%	0.0%	0.0%	3.4%	4.1%	4.5%
SVOLT	0.0%	1.2%	2.4%	2.5%	2.2%	3.2%	4.0%
Sunwoda	1.4%	0.3%	1.4%	3.0%	2.4%	3.4%	2.7%
EVE	0.1%	1.5%	2.0%	2.0%	3.9%	2.5%	2.6%
Jidian (Geely)	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	1.8%
LGES	0.1%	15.5%	4.9%	2.0%	2.0%	1.6%	1.7%
TAFEL	0.8%	1.3%	1.9%	0.5%	1.5%	1.9%	1.6%

* Only Lithium-based battery chemistries are included in this data set. xEVs captured in this data set includes BEV, PHEV, and HEV
Source: SNE Research, Bernstein analysis

EXHIBIT 25: **Ex-China's Passenger EV battery installation market share**

Ex-China	2019	2020	2021	2022	2023	2024	2025
CATL	0.3%	6.9%	14.1%	23.3%	28.1%	27.6%	30.4%
LGES	24.8%	33.7%	36.5%	30.6%	28.4%	25.1%	22.3%
SK On	4.3%	9.5%	10.7%	12.8%	10.2%	10.6%	10.1%
SDI	8.5%	10.7%	9.3%	10.9%	10.5%	8.2%	7.7%
Panasonic	51.7%	32.8%	23.8%	16.2%	13.7%	9.9%	7.3%
BYD	0.0%	0.1%	0.1%	0.5%	2.1%	4.1%	6.9%
Farasis	0.0%	0.0%	0.1%	0.9%	1.7%	2.1%	2.3%
TESLA	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	2.1%
Gotion	0.0%	0.0%	0.0%	0.0%	0.5%	2.0%	2.0%
SVOLT	0.0%	0.0%	0.0%	0.0%	0.1%	0.7%	1.7%

* Only Lithium-based battery chemistries are included in this data set. xEVs captured in this data set includes BEV, PHEV, and HEV
Source: SNE, Bernstein analysis

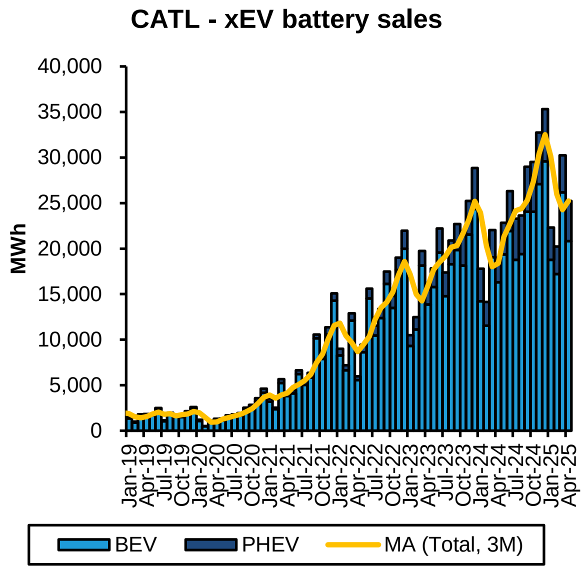
EXHIBIT 26: **Key partnerships between passenger OEMs and battery makers**

Battery makers	Key clients	Key models
CATL	Tesla	Model 3 (China)
	BMW	iX3, 530e
	Mini	Mini Electric
	Peugeot	e-208, e-2008
	Nio	ES6, ES8, EC6
	Xpeng	P7, G3
	Li Auto	Li One
	MG	ZS
	Roewe	Ei5, Clever, ER6
	Great Wall	ORA (MicroEV)
	Yutong	ZK6106BEVG5, ZK6815BEVG5
LG Chem	Tesla	Model 3 and Model Y
	Renault	Zoe, Kangoo ZE
	VW	ID 3/4, e-Up!
	Audi	E-Tron
	Hyundai	Kona, Ioniq
	Chevrolet	Bolt
	Mercedes	EQC, EQV
	Jaguar	I-Pace
Panasonic	Tesla	Model S, Model X, Model 3 and Model Y
	Honda	E electric, Clarity PHEV
	Toyota	Prius PHV, RAV4 Prime PHV
	Mazda	MX-30
	Ford	Fusion Energi, Escape, Fusion Hybrid
SDI	BMW	i3, 330e, X5 xDrive45e, 530e
	Audi	E-Tron, Q5 PHEV
	VW	e-Golf, Passat GTE, Golf GTE
	Ford	Kuga PHEV
BYD	BYD	Han, Qin

Source: SNE Research, Bernstein analysis

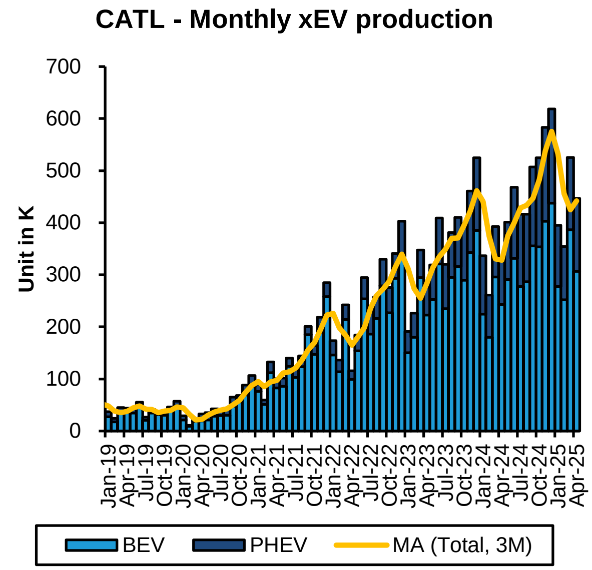
CATL: 2025YTD PASSENGER EV BATTERY INSTALLMENT INCREASED BY 34% YOY TO 98GWH (M/S AT 35.7%)

EXHIBIT 27: **CATL – monthly installed battery volume for xEV was 25.2GWh (+33% YoY)**



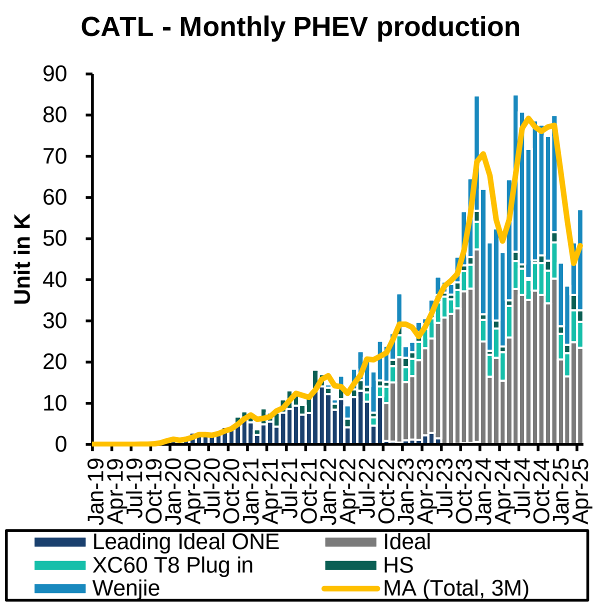
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 28: **CATL – 447K units (+35% YoY) sold for xEV equipped with the company's LiBs**



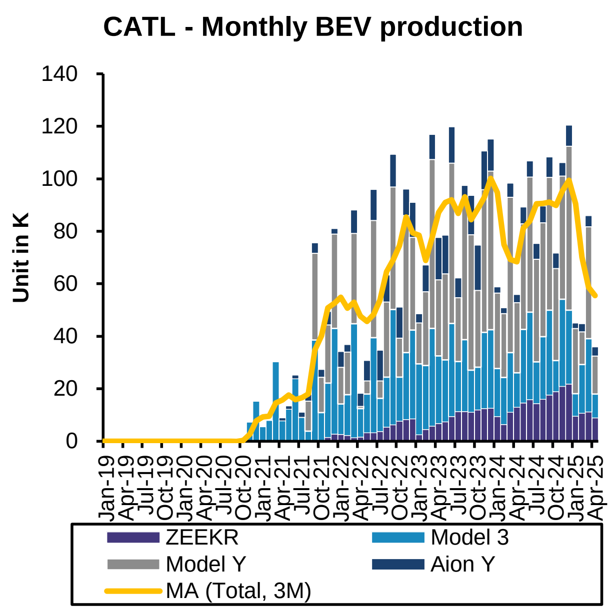
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 29: **CATL – Key models/customers within CATL's PHEV segment**



Source: SNE Research, Bernstein analysis

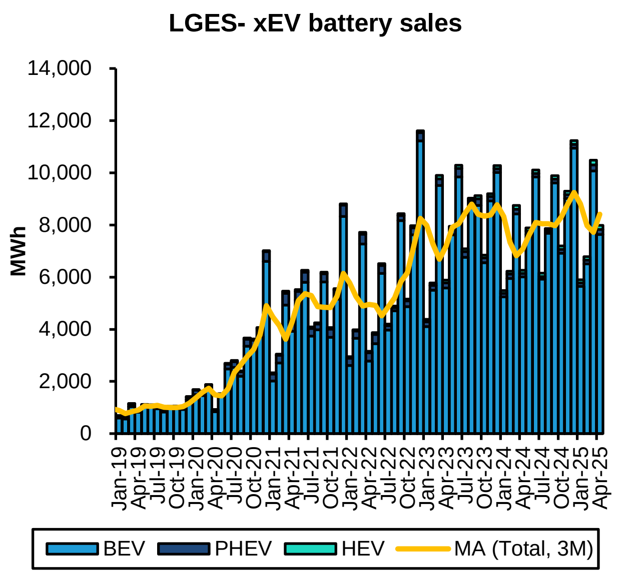
EXHIBIT 30: **CATL – Key models/customers within its BEV segment**



Source: SNE Research, Bernstein analysis

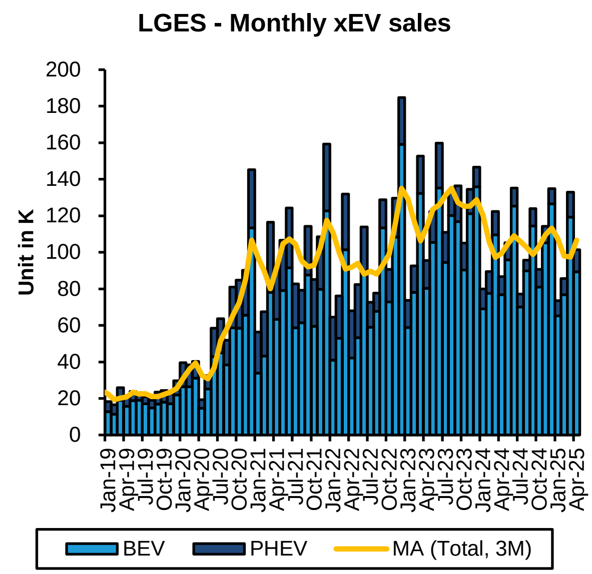
LG ENERGY SOLUTION – 2025YTD PASSENGER BATTERY SHIPMENTS GREW BY 17% YOY TO 31GWH (M/S AT 11.3%)

EXHIBIT 31: **LGES – Installed battery volume for xEV were 8.0GWh, +27% YoY**



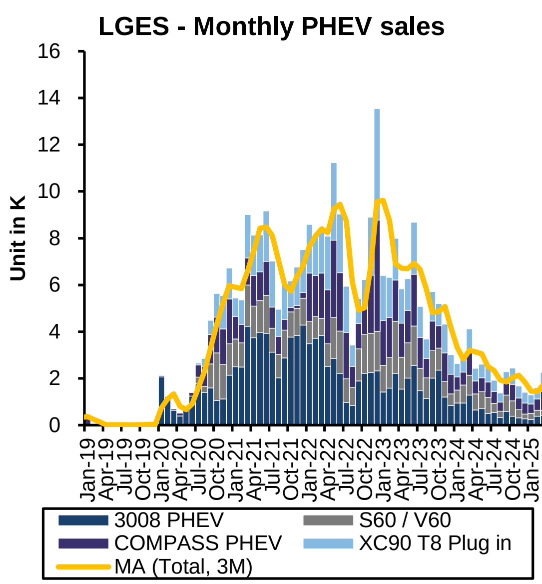
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 32: **LGES – 101K (+17% YoY) units sold for xEV equipped with the company's LiB**



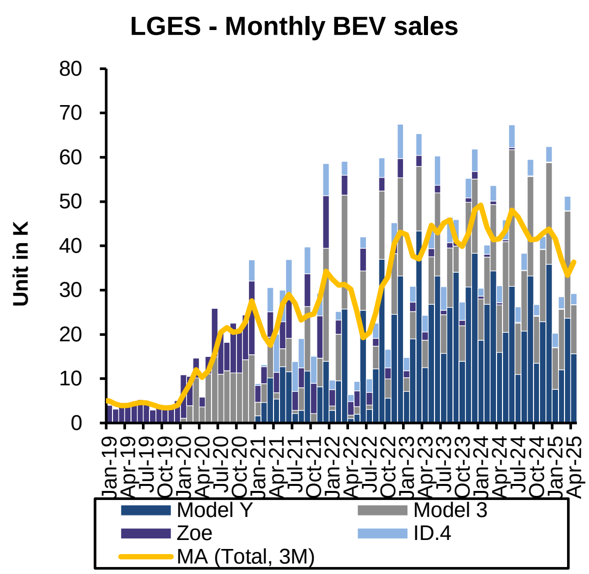
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 33: **LGES – major PHEVs equipped with the LGES' LiBs**



Source: SNE Research, Bernstein analysis

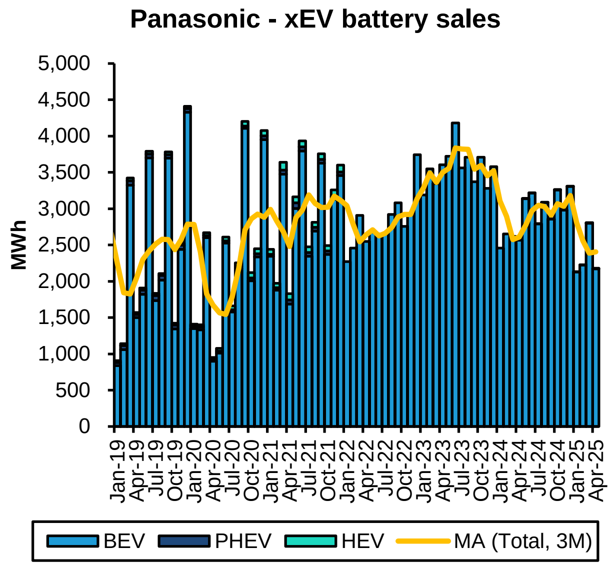
EXHIBIT 34: **LGES – major BEV models equipped with LGES LiBs**



Source: SNE Research, Bernstein analysis

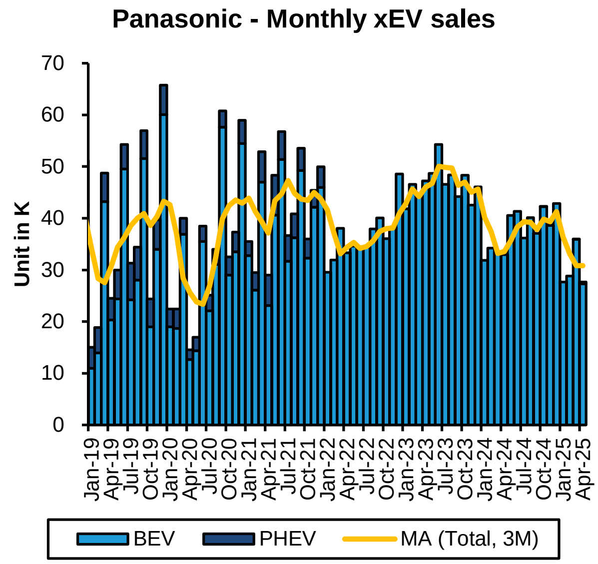
PANASONIC SOLD A TOTAL OF 9GWH OF BATTERIES FOR PASSENGER EVS IN 2025YTD (-9% YOY, 3.4% M/S)

EXHIBIT 35: **Panasonic – Monthly installed battery volume in for xEV was 2.2GWh (-15% YoY)**



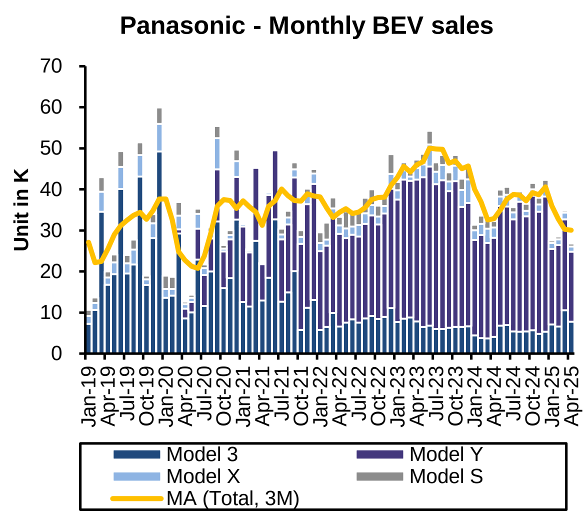
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 36: **Panasonic – 28K (-16% YoY) units sold for xEV equipped with its LiB this month**



* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

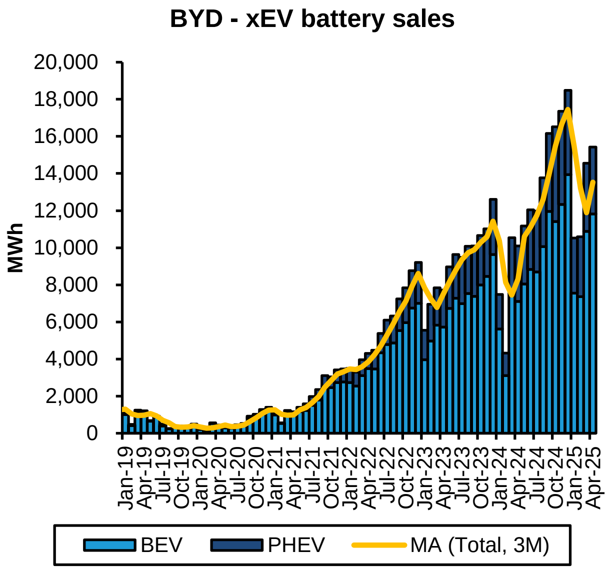
EXHIBIT 37: **Panasonic – major BEVs equipped with the Panasonic' LiBs**



Source: SNE Research, Bernstein analysis

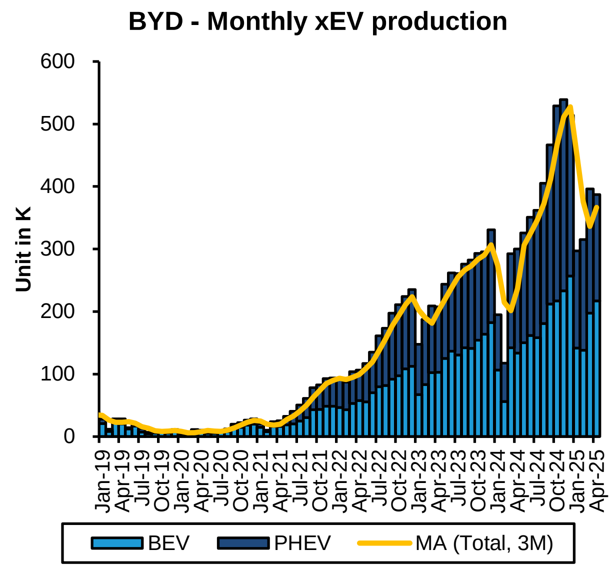
BYD'S 2025YTD PASSENGER EV BATTERY SHIPMENTS WERE 51GWH, +57% YOY (M/S AT 18.6%)

EXHIBIT 38: **BYD – Monthly battery installation increased to 15.4GWh (+53% YoY)**



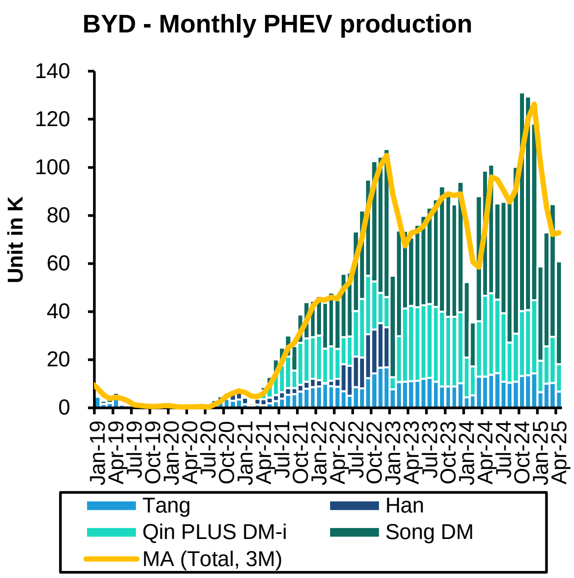
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 39: **BYD – Monthly production were 387K units (+29% YoY)**



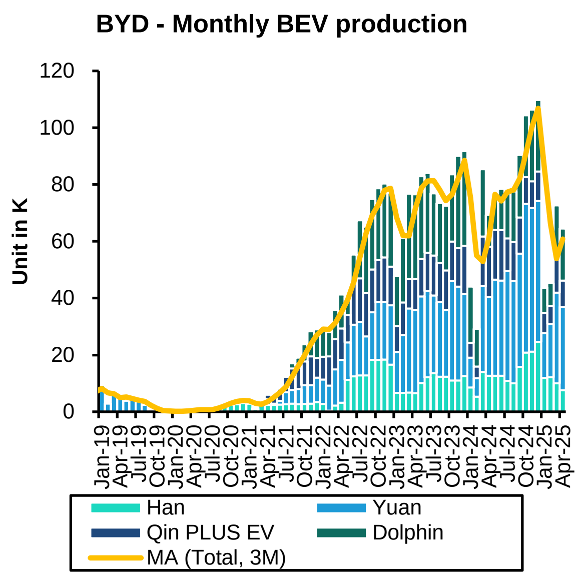
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 40: **BYD – key PHEV models equipped with BYD batteries**



Source: SNE Research, Bernstein analysis

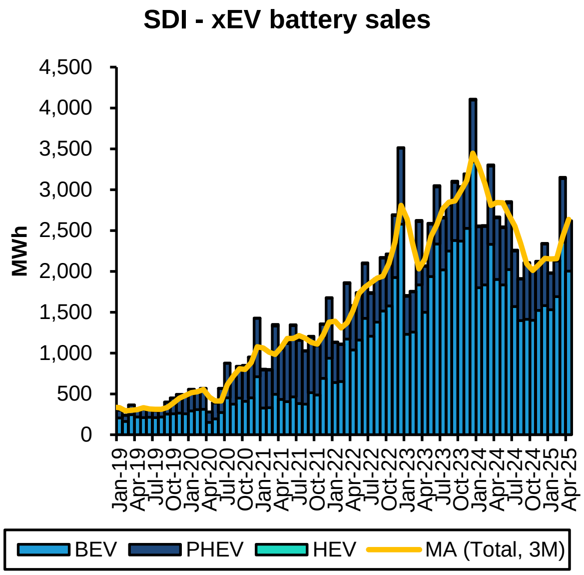
EXHIBIT 41: **BYD – key BEV models equipped with BYD batteries**



Source: SNE Research, Bernstein analysis

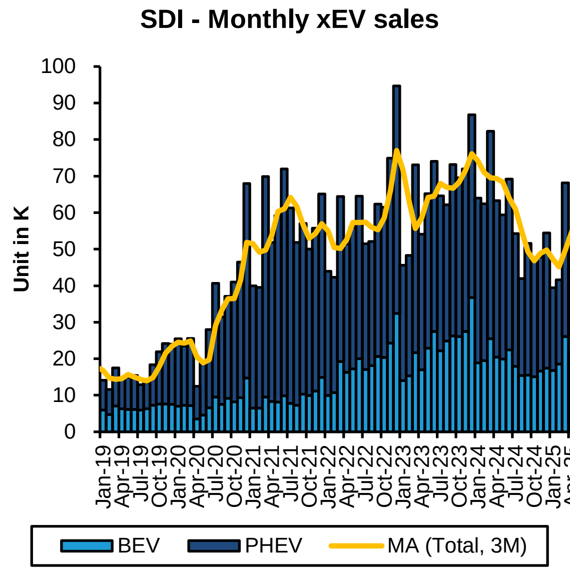
SAMSUNG SDI: 2025YTD PASSENGER EV BATTERY SALES WERE DOWN BY 11% YOY TO 10GWH (M/S AT 3.6%)

EXHIBIT 42: **SDI – Installed battery volume for xEV amounted to 2.6GWh (-2% YoY)**



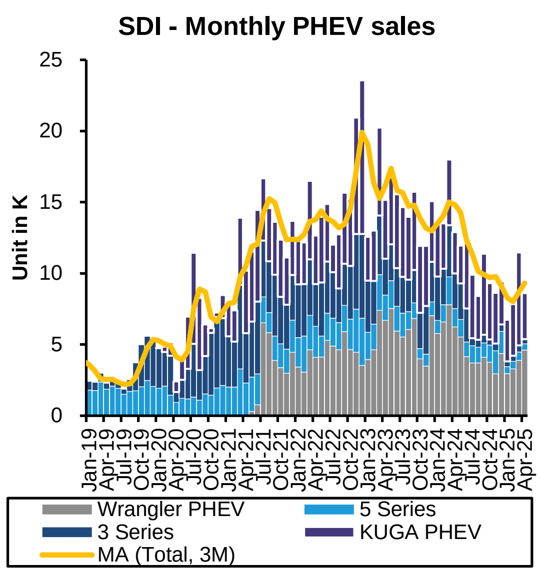
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 43: **SDI – 54K units sold for xEV equipped with the Samsung SDI's LiB in the month (-14% YoY)**



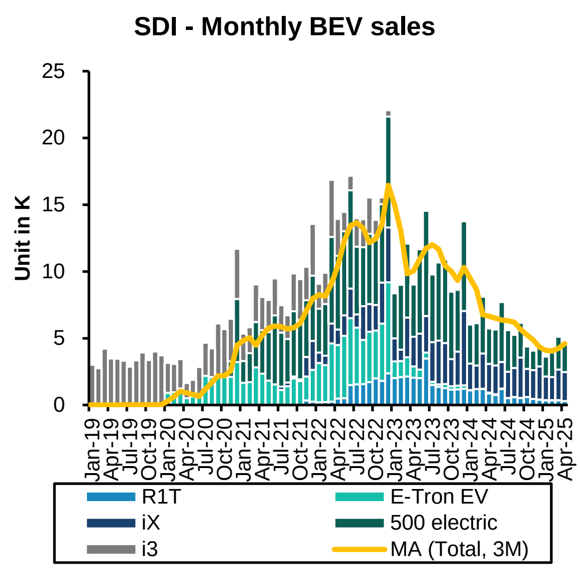
* Only Lithium-based battery chemistries are included in this data set
Source: SNE Research, Bernstein analysis

EXHIBIT 44: **SDI – key PHEV models equipped with SDI batteries**



Source: SNE Research, Bernstein analysis

EXHIBIT 45: **SDI – key BEV models equipped with SDI batteries**



Source: SNE Research, Bernstein analysis

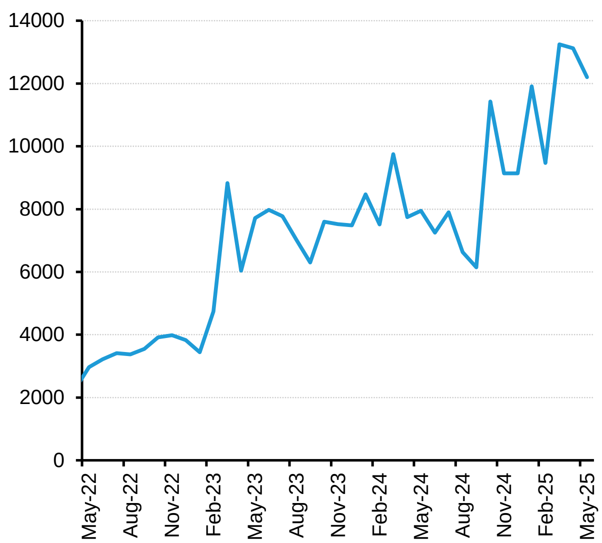
6. EV TRENDS IN INDIA

EV VOLUME TRENDS

- **E-2Ws:** In May-25, volumes for E-2Ws grew by 30% YoY, largely due to a weak base in 1QFY25 when subsidies were reduced. The subsidy was reduced from Rs 10K per kWh in Mar-24 to Rs 5K per kWh in Apr-24, and has been further reduced to Rs 2.5K per kWh from Apr-25. Despite this drop, the monthly sales in May-25 stood at 100K units, higher than the monthly average of 96K units, which we view as a positive outcome and a positive start to FY26.

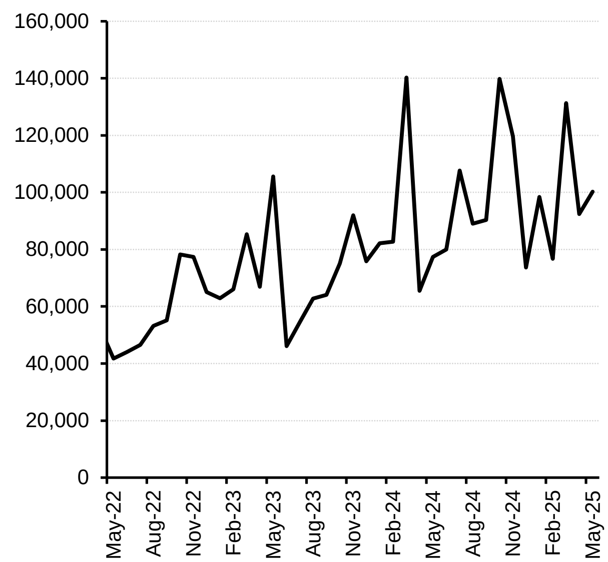
- For FY25, total E-2W volumes reached 1.15 mn units, reflecting 21% YoY growth. We expect 40% growth in FY26, driven by the scale up of affordable models. At a broader level, the convergence of upfront cost between EVs and ICE vehicles, along with a robust pipeline of new EV launches, is expected to further drive volume growth and E-2W penetration in FY26.
- **E-4Ws:** Growth in electric E-4Ws continued to improve, with May-25 volumes rising 53% YoY(flattish MoM). This strong growth was primarily due to a weak base, as the government removed commercial PVs from subsidies in 1QFY25, resulting in subdued volumes. This low base is likely to support growth through 1HFY26. Additionally, robust volumes were driven by several new launches in recent months. A combination of relevant product launches, including the Windsor EV, Curvv EV, Mahindra BEV, and Creta EV, has supported positive momentum over the past six months. For FY25, E-4W volumes grew 17% YoY, and we expect growth to accelerate to over 50% in FY26, fueled by these new launches.
- **EV adoption trends:** E-2Ws continue to lead in EV adoption, with penetration levels stable at 6–7%. In contrast, passenger car adoption remains lower at ~2–4%, primarily due to 1) the higher upfront cost of EVs relative to ICE vehicles and 2) limited availability of models in the E-4W segment.

EXHIBIT 46: **Monthly E-4W retail sales**



Deliveries exclude retail registration in the state of Telagana
Source: Parivahan, Bernstein analysis Note: Data as on 1st June 25

EXHIBIT 47: **Monthy E-2W retail sales**



Deliveries exclude retail registration in the state of Telagana
Source: Parivahan, Bernstein analysis Note: Data as on 1st June 25

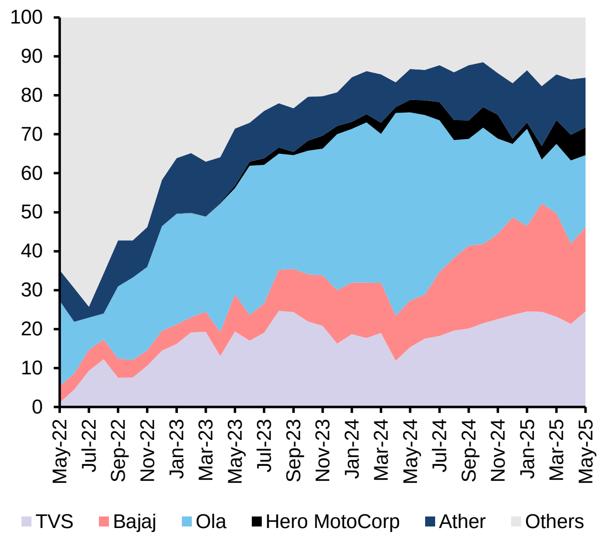
MARKET SHARE TRENDS:

- **E-2Ws:** According to Vahan data, TVS has emerged as the market leader in the E-2W segment as of May 2025. This marks the second consecutive month in which TVS has topped the sales chart for E-2Ws. This achievement is largely attributed to price reductions implemented by TVS across its portfolio, given it has started getting PLI for its EVs (link). Previously, TVS's pricing was at a premium compared to other incumbent OEMs, despite offering lower-spec products. Following the recent price adjustments, TVS's pricing is now largely in line with other major incumbents. The broader trend indicates that established players like Bajaj, TVS, and Hero are maintaining high market shares at the expense of startups like Ola and other marginal E-2W OEMs. This shift is being driven by the introduction of new EV models priced under Rs 100,000, along with the utilization of extensive internal combustion engine (ICE) distribution networks by these incumbents. Among the key startups in the E-2W space, Ather is gaining market share due to its expanding distribution network and ramp up of Rizta model.
- **E-4Ws**: It is important to note that the E-4W market is currently small, and any new launches by a strong OEM can quickly alter the competitive dynamics. While the E-4W segment has been dominated by Tata and MG Motors over the past two years, some market fragmentation is beginning to emerge. Mahindra has commenced retailing its new EVs, capturing a 21%

market share in May 2025. From a revenue share perspective, Mahindra has already established itself as the leading OEM in the E-PV segment in India. Hyundai has also started deliveries of the Creta EV, although its market share remains modest at 5%. The trend of Tata Motors losing market share continued in May-25, with MG and Mahindra achieving 31% and 21% market shares, respectively, compared to Tata's 35%. This represents a significant decline for Tata, whose market share has halved from 71% in CY23 to 35% in May-25, primarily due to the withdrawal of subsidies on commercial E-PVs, a segment where Tata had a strong presence. Meanwhile, MG has made substantial gains, driven by the success of the Windsor EV, which combines affordable pricing with a battery-as-a-service model. The Windsor EV has become the best-selling model over the past six months, surpassing Tata's offerings.

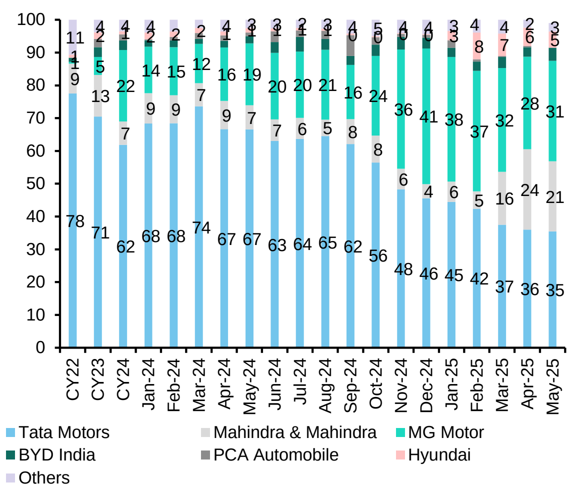
Looking ahead, OEMs such as Mahindra, Tata, Maruti, and Hyundai are expected to launch or enhance new EV models in the mainstream utility vehicle segment over the coming quarters, which could significantly alter the competitive landscape in the EV market.

EXHIBIT 48: **Market share of E-2W players in India**



Source: SMEV, SIAM, Bernstein analysis

EXHIBIT 49: **Market share of E-4W players in India**



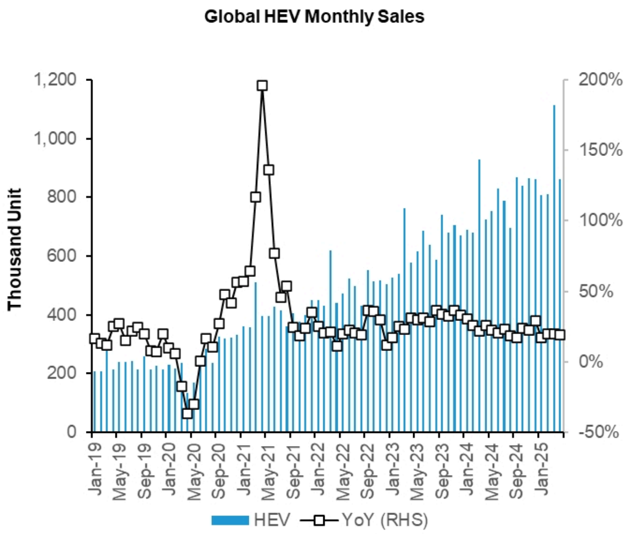
Source: SMEV, JMK research, Bernstein analysis

7. HEV TRENDS AND JAPANESE AUTOMAKERS

April global HEVs sales were **861 thousand units** (+19% YoY, -23% MoM) (Exhibit 50). 2025YTD global HEVs sales reached 3.6M, +19% YoY. April HEVs sales of Japanese automakers were **487 thousand units** (+9% YoY, -23% MoM) (Exhibit 51). Overall, as of April, Japanese automakers have a market share of 57% in the HEV segment (-5%p YoY, -0.5%p MoM) (Exhibit 52).

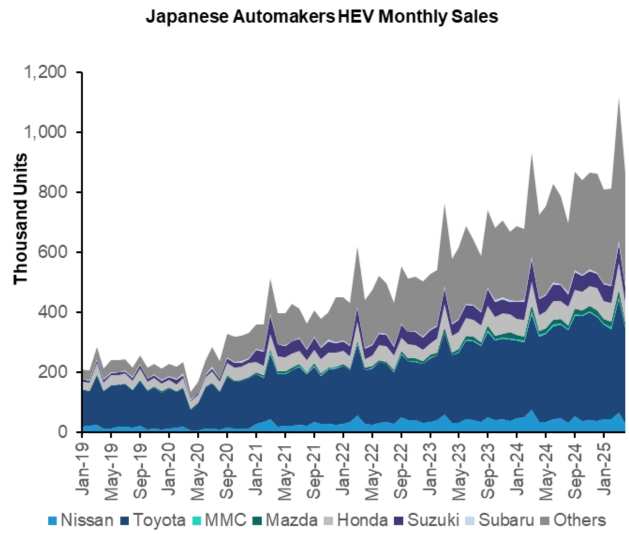
- Toyota's monthly sales recorded 316 thousand units (+12% YoY, -16% MoM, and global M/S of 37%)
- Honda's monthly sales recorded 64 thousand units (+17% YoY, -29% MoM, and global M/S of 7%)
- Suzuki's monthly sales recorded 52 thousand units (+2% YoY, -17% MoM, and global M/S of 6%)

EXHIBIT 50: **Global HEV monthly sales in April were 861k (+19% YoY, -23% MoM)**



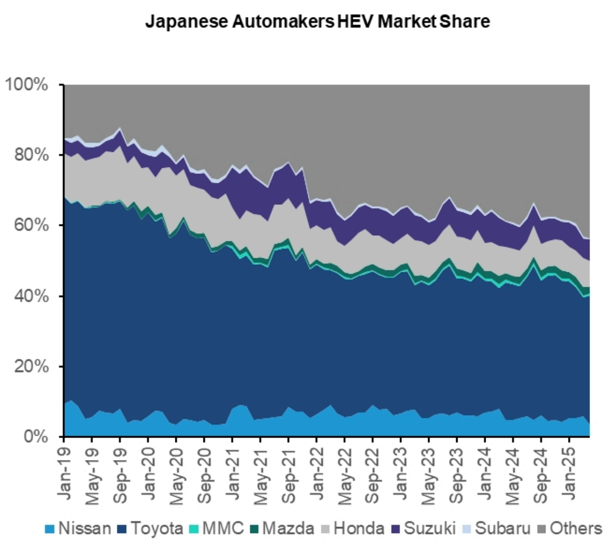
Source: SNE Research, Bernstein analysis

EXHIBIT 51: **Japanese automakers monthly global HEV sales 487k (+9% YoY, -23% MoM)**



Source: SNE Research, Bernstein analysis

EXHIBIT 52: **Japanese automakers global HEV M/S 57% (-5%p YoY, -0.5%p MoM)**



Source: SNE Research, Bernstein analysis

MAJOR OEMS' EV PLANS

EXHIBIT 53: **Major OEMs have announced their EV transition targets recently**

Region	OEM / Brand	Announced Date	Target Year	Commentary
Europe	VW Group	Mar-23	2025 / 2030 / 2033	• Targeting 1.5mn EVs annual sales volume by 2025 • China: Planned 30+ new electric or hybrid models by 2030 • North America: Increased target for fully electric vehicles from 50% to 55% of sales by 2030 • Europe: Increased target for fully electric vehicles from 70% to 80% by 2030, and electric-only from 2033
	Audi	Jul-24	2025 / 2026 / 2033	• By 2025, Audi in America aims for one third of its portfolio to be electrified • By 2026 all new model introduction will be electric • By 2033 will phrase out combustion models.
	Lamborghini	Aug-24	2030	• Committed to having at least two EVs on the road by 2030
	Porsche	Jul-24	2030	• Toned down EV ambitions, expecting 80% sales mix fully electric in 2030, contingent on macro conditions
	BMW	May-24	2025 / 2030	• Expect 30% BEV share by 2025 • Sticks to the original target to have 50% of its sales globally to be fully electric models by 2030 • In China, BMW is aiming for >25% of its sales to be BEVs by 2025
	Stellantis	Sep-23	2025 / 2030	• 100% of passenger sales in Europe and 50% of passenger and light truck sales in the US to be BEV by 2030 • Introduce more than 75 fully electric models by 2030 with annual sales of 5 million vehicles. • Investing EUR50bn in electrification by 2034, up from EUR30bn 2021-25 • In 2025 scrapped Maserati's electrification plans to go all-electric by 2030, revised Chrysler and Alfa Romeo's 2028 all electric push
	Mercedes-Benz	Jul-24	2030	• Planned for electric vehicles to comprise 50% of sales by 2030 • Emphasized the need for flexibility into the 2030s; previously targeted new cars to be electric-only by 2030
	Jaguar	Jun-24	2025 / 2030	• Pulled early on commitment to transition to a fully electric brand by 2025, from 2030
	Land Rover	Feb-24	2026 / 2030 / 2036	• Reduced to 4 full electric models by 2026, from 6 models • 60% of sales fully electric by 2030 • Phase out ICE models in the UK by 2030, and globally by 2036
	Volvo Cars	Sep-24	2025 / 2030	• 50-60% of global sales to come from electrified models (EVs and PHEVs) by 2025 • Abandoned 100% EV-only target by 2030. Now 90-100% to be electrified by 2030.
	Renault	Jan-22	2030	• 100% electric in Europe in 2030.
US	Ford	Sep-24	2026 / 2030	• 40-50% sales from BEV by 2030 • All-new electric commercial van to begin production in 2026 • Cancellation of previously planned 3-row all electric SUVs, to be replaced by 3-row SUVs with hybrid propulsion options • Abandoned goal to go all-electric in Europe by 2030
	GM	Jul-24	2025 / 2035	• No longer reiterate plans of 1mn EV production capacity in each China and North America by 2025. Targets 300,000 EVs sales in 2025 • All new vehicles all-electric by 2035 • In 2024 Cadillac softened tone on full EV lineup in 2030
Japan	Toyota	Sep-24	2026 / 2030	• Cut 2026 global EV output plans by a third, now plans to build 1mn EVs in 2026, vs 1.5mn earlier guided • No intention to change "production guidance" 1.5mn EVs per year by 2026 and 3.5mn by 2030, but they are "benchmarks for shareholders" but not target
	Honda	May-25	2027 / 2030 / 2035	• 20% of sales mix to be pure electric/fuel cell vehicles by 2030 • Introduce 10 Honda-brand EV models by 2027 • Make EVs represent 100% of our automobile sales in China by 2035
	Mazda	Dec-23	2025 / 2028 / 2030	• Begin introduction of BEVs globally in 2025-27, and full-scale introduction of BEVs from 2028 • BEV ratio expected to be 25-40% in 2030
	Mitsubishi	Mar-23	2035	• Planned for 100% sales to be either BEV or hybrid by 2035, vs. previous guidance of 50% by 2030
	Nissan	Mar-24	2025 / 2026 / 2030	• 40%+ of sales mix in Europe to be 100% electric and 75% electrified by 2026 • 16 out of 30 new models launched globally by 2026 will be BEV or hybrid
	Subaru	Aug-23	2030	• 50% of global sales to come from EVs and hybrid by 2030, up from 40%
	Suzuki	Feb-25	2030	• BEV 20% & HEV 80% mix in Japan, BEV 45% & HEV 55% mix in Europe, and BEV 15% & HEV 25% mix in India, by FY2030
Korea	Hyundai	Sep-24	2030	• Cut 2030 total sales target by 6% and expect 2.38mn sales of NEVs annually by 2030, or 55% of total sales • EV sales target achieved by scaling back plans in Europe to focus more on North America
	Kia	Apr-24	2027 / 2029 / 2030	• Aim to launch 4 more EV models than previous guidance by 2027, and 3 more models in hybrid lineup by 2028 • Aim to have BEV and hybrid models representing 58% of Kia's total sales by 2030 • Unchanged target to sell 1.6mn EV by 2030
China	GAC	Nov-21	2025 / 2030	• 50% of sales to come from EVs for non-JV brands by 2025 and for the Group (incl. JV brands) by 2030 • 100% new models of Trumpchi will be PHEV by 2025 and PHEV penetration to reach 60% by 2030
	Geely	Oct-21	2025	• At least 25 new EV models in 5 years, including 10+ under Geely brand, 5+ under Geometry, and 5+ under Lynk • 70k+ new vehicles under Zeekr brand in 2022, and expand its product line to 7 models by 2025 • Electrified cars will account for 30% or 1mn+ vehicles per year by 2025
	Great Wall	Jun-21	2025	• 80% of the global sales are NEV by 2025
	SAIC	Apr-23	2025	• 3.5mn global sales or 32% of group sales mix will be NEV by 2025, vs. 2.7mn guided in 2021 • over 70% sales mix of self-owned brands will be NEV by 2025, vs. 38% guided in 2021
	Changan	Jun-24	2025 / 2030	• 1.2mn EV sales expected for 2025, 30-35% of total sales mix • 3-3.5mn EV sales expected for 2030, 60-70% of total sales mix

Source: Company announcements, News, and Bernstein analysis

EXHIBIT 54: **OEM BEV Penetration targets, by brand, with qualifiers**

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030+
Volvo	1st BEV					50-60% Electrfied					90-100% Electrified
Volkswagen	1st BEV					20% BEV					55-80% BEV
Renault	1st BEV (2012)					50% BEV					Full-BEV
Stellantis	1st BEV					70% / 40% xEV					100% / 50% xEV
Mercedes	1st BEV (2019)										50% xEV
BMW	1st BEV (2012)										
Porsche	1st BEV (2019)										
Ford			1st BEV								40-50% BEV
GM	1st BEV (2017)										100% BEV Fleet (2035) (?)
Toyota			1st BEV				1m BEVs sold				3.5m BEVs sold
Maserati	1st PHEV			1st BEV (GT Folgore)				Full-BEV			
Rolls-Royce											Full-BEV
Bentley	1st PHEV (2018)					1st BEV					100% xEV
Aston Martin					1st PHEV	1st BEV					100% xEV
Lamborghini				1st PHEV		100% PHEV			1st BEV		
Ferrari	1st PHEV (2019)		2nd PHEV			1st BEV	60% PHEV/BEV				40% BEV / 40% PHEV

Source: Company reports, Bernstein analysis and estimates

EXHIBIT 55: **Overview of OEMs' battery supply**

		Ford	GM	STLA	MBG	BMW	RNO	VOLCARB	VOW	Toyota
Suppliers	CATL	X	X	X	X	X	X	X	X	X
	Samsung SDI	X	JV	JV		X		X	X	X
	LG Chem	JV	JV	JV	X		X	X	X	X
	SK Innovation	JV			X				X	
	EVE Energy		X			X				
	Panasonic			TBC		TBC				JV
	Umicore								X	
	Envision AESC				X	X	JV			
	Farasis				X					
	BYD			X						X
	SVOLT			X						
	Verkor						JV			
	ACC			JV	JV					
	Gotion								JV	
Giga-factories	Own	1	1						6	2
	Suppliers / JV	3	3	5	8	11	1	2		
Solid-State	Target year	2028 - 2030	TBC	2026+	2028	2030	2028+	TBC	2025+	2027
	Supplier / Partner	SK Innovation/Solid Power	SES	Factorial Energy	Factorial Energy / ProLogium	Solid Power	R-N-M Alliance	Solid Power / StoreDot	Quantum-Scape	Idemitsu Kosan

Source: Company filings, news, Bernstein analysis

EXHIBIT 56: **Overview of Global OEMs' current battery strategies**

	Current Battery Strategy					
	Cell design			Chemistry		
	Prismatic	Pouch	Cylindrical	NMC	LFP	Others
FORD	X	X		X	X	
GM	X	X		X	X	
STLA	X		X	X	X	
BMW	X			X		
MBG	X	X		X		
RNO		X		X		
VOLVO		X		X		
VOW		X		X		
TOYOTA	X				X	NiMH
TESLA			X	X	X	NCA

Source: Company filings, Bernstein analysis

EXHIBIT 57: **Overview of Global OEMs' future battery strategies**

	Future Battery Strategy							
	Cell design			Chemistry			Silicon Anode	Cobalt-free
	Prismatic	Pouch	Cylindrical	NMx	LFP	Others		
FORD	X	X		X	X		X	X
GM	X	X	X		X	NCMA	X	
STLA	X	X	X	X	X			X
BMW			X	X	X		X	
MBG	X	X		X	X		X	X
RNO		X		X				2026
VOLVO	X	X		X	X			
VOW	X				X		X	X
TOYOTA	X					NiMH		
TESLA			X	X	X		X	

Source: Company filings, Bernstein analysis

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