

Greater China EV and EV battery

Battery installed capacity -32% MoM in Jan, weaker than normal seasonality

Industry Overview

EV battery installed capacity up 93% YoY in Jan

According to RealLi, Jan EV battery installed capacity was 32.6GWh, up 93% YoY/down 32% MoM, in line with the EV sales growth pattern. Battery installed capacity by vehicle type in Jan: passenger BEV: 60%; passenger PHEV: 31%; E-bus (BEV+PHEV): 2%; and special vehicle (BEV+PHEV): 7%.

PEV insurance up 128% YoY/down 25% MoM in Jan

New energy vehicle (NEV) wholesales (domestic + export) volume reached 729k units in Jan, up 79% YoY/down 39% MoM. BEV/PHEV sales came in at 445k/284k units in Jan, up 55%/135% YoY. Jan EV (PEV+CEV) penetration rate was 29.9%, vs. 37.7% in Dec 2023. On the other hand, locally manufactured EVs' insurance registrations totaled 663k in Jan, up 128% YoY/down 25% MoM.

CATL/BYD market share at 45.4%/26.1% in Jan

In Jan, among the major EV battery makers, installed capacity (at cell level) for the market leader CATL was 15GWh, up 88% YoY. CATL's market share was 45.4% in Jan, down 1.1ppt YoY. CATL's top clients in Jan were Tesla/DFG/Li Auto, accounting for 16%/12%/9% of installed battery capacity in China. BYD's installed capacity rose 42% YoY on robust BEV and PHEV sales; BYD secured the No.2 position with 26.1% share; SVOLT ranked No.3 with 5.7% share; Gotion ranked No.4 with 5.3% share; and CALB No.5 with 5.0% share. By EV battery chemistry, in Jan, NCM's share came in at 40% and LFP's at 60%. In terms of EV battery by form factor, prismatic accounted for the majority at 96%, vs. pouch at 2% and cylindrical at 2% in Jan.

LFP/NCM 622 price fell 42%/42% YoY in Jan

Battery installations for Tesla in China (excluding export sales) came in at 2.7GWh in Jan vs. 4.6GWh in Dec, down 42% MoM. In Jan, Tesla's domestic sales grew 52% YoY to 41k units: Model 3 sales came in at 10.3k units and Model Y at 31.2k units. In terms of battery prices, as of late-Feb 2024, ASP was RMB490/RMB520/RMB420 per kWh for NCM 622/NCM 811/LFP battery cell, down 42%/40%/42% YoY and down 21%/21%/19% MoM, according to RealLi. We expect battery prices to remain at a low level in 2024, given the over-capacity in the EV battery supply chain.

02 March 2024

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CEV: Commercial electric vehicle

EV: Electric vehicle

BEV: Battery electric vehicle

PHEV: Plugin-hybrid electric vehicle

GWh: Gigawatt hour

kWh: Kilowatt hour

MoM: Month on month

PEV: Plug-in electric vehicle

YoY: Year on year

LFP: Lithium iron phosphate

NCM: Nickel, cobalt and manganese

ASP: Average selling price

ESS: Energy storage system

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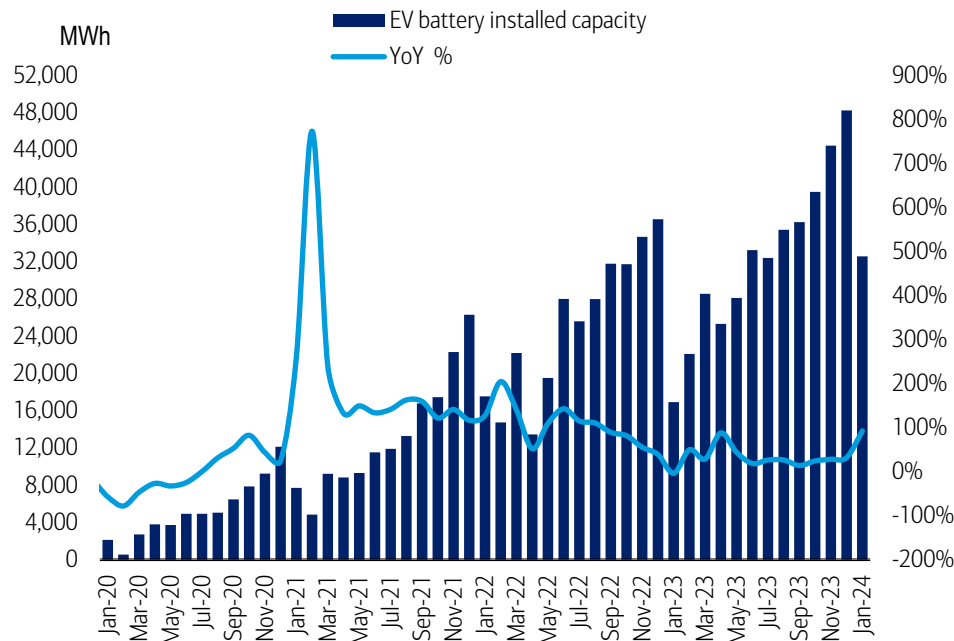
Newly added charging piles up 31% YoY in Jan

According to data released by China's Electric Vehicle Charging Infrastructure Promotion Association (EVCIPA), the cumulative number of charging piles for EVs owned and operated by its members totaled 8.9mn units, as of end-Jan 2024, up 64% YoY, including 2.8mn units of public charging piles (+51% YoY) and 6.1mn units of private charging piles (+70% YoY). The newly added charging piles came in at 265k units in Jan, up 31% YoY, while the newly added public/private charging piles were +37%/+30% YoY. Among the public charging pile operators, TELD/Star Charge/YKC were at the top-3 positions, with market share of 19%/17%/17%, as of end-Jan.

Key tables and charts – China EV battery

Exhibit 1: China EV battery installed capacity growth

Jan 2024 installed capacity rose 93% YoY

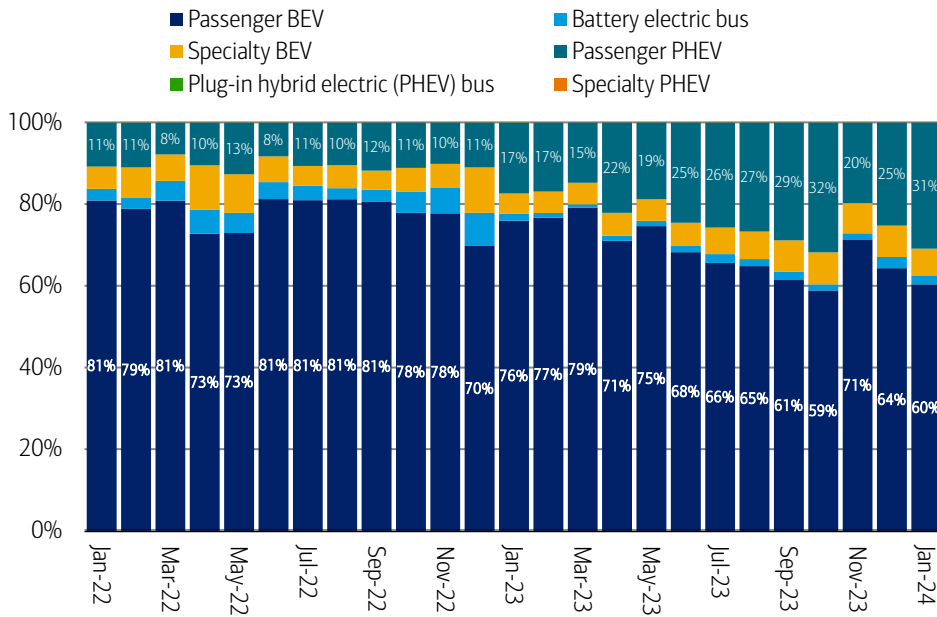


Source: RealLi, BofA Global Research

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Exhibit 2: China EV battery installed capacity by vehicle type

Passenger BEV accounted for 60% of total installed capacity in Jan 2024

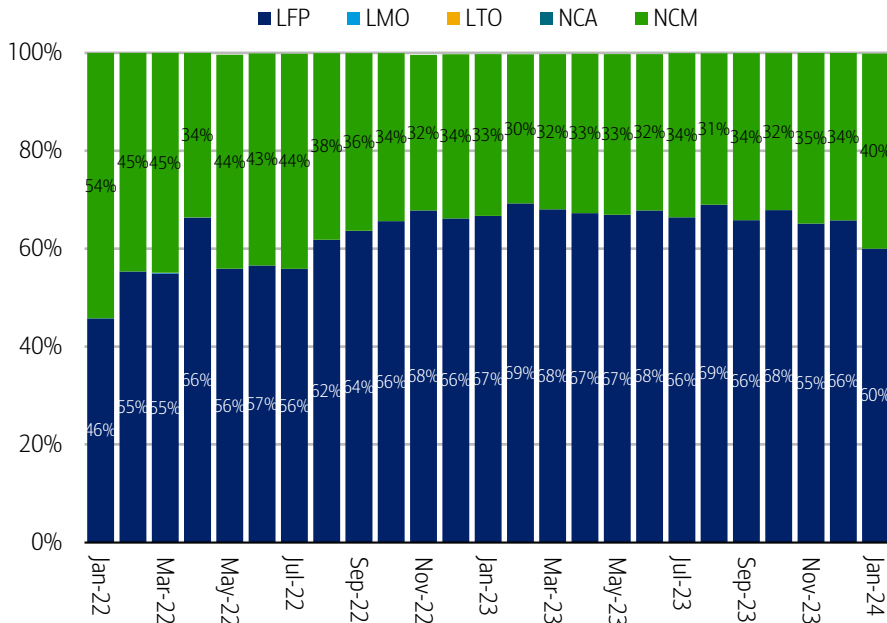


Source: ReallLi

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Exhibit 3: China EV battery installed capacity by chemistry

NCM/LFP battery accounted for 40%/60% of capacity in Jan 2024

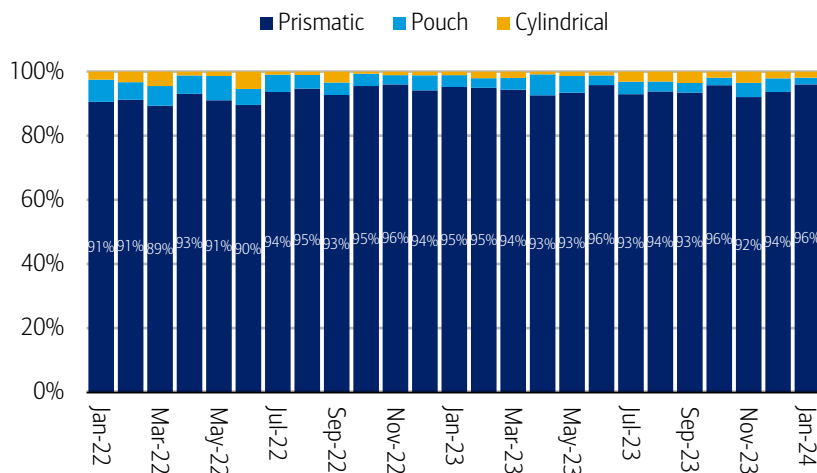


Source: ReallLi

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Exhibit 4: China EV battery installed capacity by form factor

Prismatic battery accounted for 96% of the total capacity in Jan 2024



Source: RealLi

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Exhibit 5: Top-10 EV battery suppliers by installed capacity in Jan 2024

CATL ranked No.1, with 45.4% market share in EV battery installed capacity in Jan 2024

(MWh)	Installed capacity	Mkt share
CATL	14,780	45.4%
BYD	8,491	26.1%
SVOLT	1,845	5.7%
Gotion	1,729	5.3%
CALB	1,645	5.0%
EVE	651	2.0%
CATL-SAIC	631	1.9%
Tafel/Zenergy	601	1.8%
REPT	422	1.3%
Jidian	415	1.3%
Others	1,377	4.2%
Total	32,587	100.0%

Source: RealLi, BofA Global Research

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Exhibit 6: Battery (include EV + ESS + consumer electronics battery) production by top 5 suppliers

CATL produced 26GWh while BYD produced 10.6GWh in Jan-24

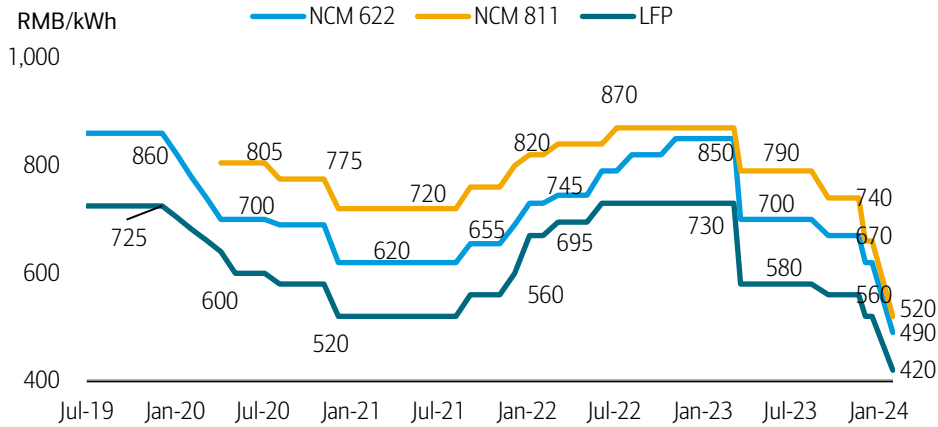
(GWh)	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24
CATL	24.4	24.9	25.0	24.0	26.8	32.0	31.2	35.9	36.9	38.9	37.5	34.1	26.3
BYD	11.9	12.1	11.6	9.3	9.6	12.1	15.3	15.3	15.1	15.0	14.4	14.3	10.6
EVE Energy	2.4	2.5	2.4	2.1	3.2	4.3	6.6	5.8	5.0	4.6	4.2	4.4	4.7
CALB	1.9	1.9	2.4	3.1	3.3	3.9	4.3	3.4	3.2	3.3	3.3	3.1	2.7
Gotion High-Tech	2.6	2.5	2.4	2.2	2.4	3.3	3.5	3.5	3.7	3.7	3.5	3.2	2.7

Source: ICCSino

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Exhibit 7: NCM/LFP battery cell price trend in China

NCM 622/ NCM 811/ LFP battery price down 42%/40%/42% YoY in late-Feb 2024



Source: RealLi

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Exhibit 8: Battery supplier vs. OEMs in battery installed capacity in 2024

BYD ranked No.1 among OEMs, with battery installed capacity of 8.1GWh in Jan 2024

		EV battery makers											Total
kWh		CATL	BYD	SVOLT	Gotion	CALB	EVE	CATL-SAIC	Tafel/Zenergy	REPT	Jidian	Others	
OEMs	BYD	0	8,061,429	0	0	0	0	0	0	0	0	0	8,061,429
	Local brand	2,234,418	0	577,106	154,319	46,660	56,129	0	0	0	414,649	67,405	3,550,687
	Tesla	2,384,525	0	0	0	0	0	0	0	0	0	277,928	2,662,453
	SAIC Group	668,651	2,210	4,693	622,208	53	0	584,823	51,561	366,631	0	138,553	2,439,384
	SAIC Motor	446,676	0	0	16,069	0	0	263,875	0	110,991	0	4,907	842,517
	SAIC GM Wuling	105,714	0	4,693	600,079	53	0	0	51,561	255,179	0	125,442	1,142,721
	SAIC Maxus	29,326	0	0	6,060	0	0	26,196	0	462	0	70	62,114
	SAIC GM	6,029	2,210	0	0	0	0	206,304	0	0	0	8,135	222,678
	SAIC VW	28,451	0	0	0	0	0	88,448	0	0	0	0	116,900
	DFG	1,729,802	85,855	17,587	213,956	19,076	7,340	0	10,281	0	0	222,475	2,306,371
	DF Motor	293,055	20,167	17,587	9,265	19,076	7,340	0	0	0	0	179,239	545,728
	DF Nissan	55,117	0	0	2,966	0	0	0	0	0	0	3,403	61,485
	DF Honda	20,606	0	0	0	0	0	0	0	0	0	32,181	52,787
	GAC Group	605,474	0	0	0	572,382	7,006	0	454,920	0	0	169,924	1,809,706
	GAC Motor	569,965	0	0	0	572,014	7,006	0	454,920	0	0	153,793	1,757,698
	GAC Honda	28,639	0	0	0	369	0	0	0	0	0	15,677	44,684
	GAC Toyota	6,870	0	0	0	0	0	0	0	0	0	384	7,254
	GAC NIO	0	0	0	0	0	0	0	0	0	0	0	0
	GWM	407,165	0	1,018,304	199,241	0	0	0	0	0	0	0	1,624,711
	Changan	1,016,678	7,004	0	28,834	355,025	53,495	0	0	0	0	897	1,461,933
	Li Auto	1,313,079	0	0	0	0	0	0	0	0	0	0	1,313,079
	FAW	688,170	214,621	0	0	0	3,304	45,897	0	0	0	304	952,296
	NIO	933,240	0	0	0	0	0	0	0	0	0	13,000	946,240
	XPeng	47,221	0	0	0	431,290	97,519	0	0	0	0	127,596	703,626
	Leap Motor	12,118	0	219,378	155,871	152,282	0	0	84,032	36,686	0	0	660,367
	Hozon	314,535	0	2,199	14,543	0	248,331	0	0	0	0	1,867	581,475
	BAIC Group	277,158	1,990	0	66,918	0	1,708	0	0	0	0	161,294	509,067
	BAIC Benz	95,369	0	0	0	0	0	0	0	0	0	136,149	231,518
	BAIC Motor	930	957	0	64,401	0	0	0	0	0	0	664	66,952
	BAIC BluePark	85,811	0	0	0	0	0	0	0	0	0	22,626	108,436
	BJEV	0	0	0	0	0	0	0	0	0	0	0	0
	BAIC Hyundai	0	0	0	0	0	0	0	0	0	0	0	0
	Chery	126,878	22,510	0	151,533	18,920	0	0	0	0	0	58,033	377,875
	Others	2,428,457	95,292	1,023,671	320,781	49,683	175,762	0	171	19,006	0	137,814	4,250,637
	Total	14,780,403	8,490,911	1,844,634	1,728,963	1,645,372	650,593	630,720	600,966	422,323	414,649	1,377,091	32,586,624

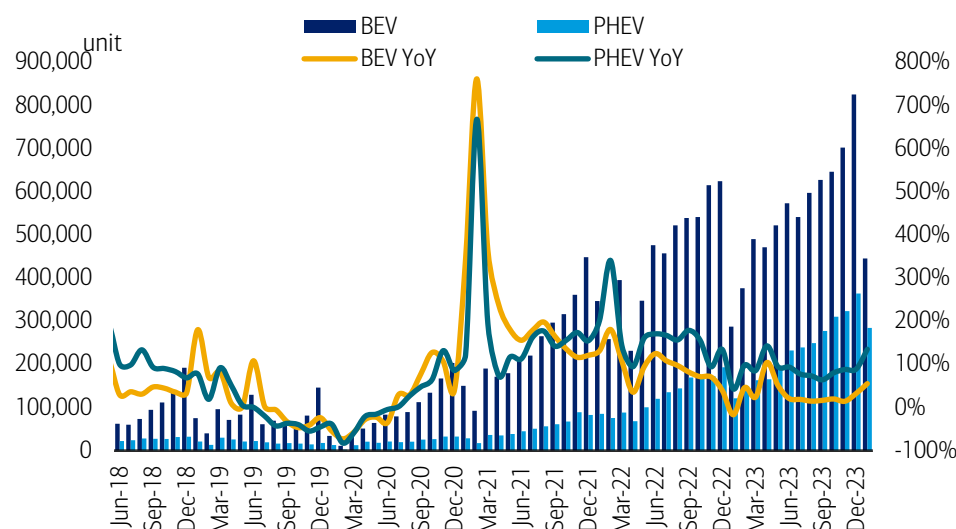
Source: RealLi

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Key tables and charts – China EV

Exhibit 9: China BEV/PHEV monthly shipment growth

NEV wholesales up 79% YoY in Jan 2024



Source: CAAM, BofA Global Research

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Exhibit 10: Top-10 OEMs' NEV insurance registrations in Jan 2024

BYD ranked No.1, with 31.5% NEV market share in Jan 2024

	Jan sales	Mkt share
BYD	209,282	31.5%
Local brand	49,847	7.5%
Changan	44,280	6.7%
SAIC GM Wuling	43,911	6.6%
Tesla (MIC+imported)	41,471	6.2%
AITO	32,951	5.0%
Li Auto	31,637	4.8%
GWM	26,152	3.9%
GAC Aion	23,382	3.5%
Leapmotor	12,411	1.9%
Others	149,903	22.5%
Total	665,227	100.0%

Source: CIRC

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Exhibit 11: Top-10 best-selling NEV models by insurance registration, YT-Jan 2024

BYD's Song is the best-selling model in YT-Jan 2024

OEM	Model	Jan sales	YT-Jan
BYD	Song	52,839	52,839
BYD	Qin	32,953	32,953
AITO	M7	31,324	31,324
Tesla	Model Y	31,158	31,158
BYD	Seagull	26,243	26,243
BYD	Yuan	18,123	18,123
BYD	Dolphin	16,430	16,430
SAIC GM Wuling	Hongguang Mini	16,045	16,045
Li Auto	L7	13,593	13,593
BYD	Han	11,454	11,454

Source: CIRC

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