

Global Energy Storage

Global Energy Storage: Battery takeaways from Beijing Auto Show



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Several Chinese battery cell manufacturers participated in the Beijing Auto Show: CATL, Sunwoda, and CALB. CATL held product launch events during the first two days of the exhibition, while CALB showcased its battery products at its booth without a formal presentation.

This year's battery themes at the auto show center on sodium-ion, semi-solid/solid-state technologies, and performance under extreme conditions, particularly at low temperatures. While charging speed continues to improve, the pace of progress appears less dramatic than last year. Instead, leading battery makers such as CATL and BYD emphasized charging performance in cold environments, including demonstrations at temperatures as low as -30°C. At the same time, Sunwoda, CALB, and CATL all showcased semi-solid or solid-state battery solutions aimed at improving both energy density and safety, with safety remaining a key discussion point across presentations from CATL and BYD. In addition, both CATL and Sunwoda introduced sodium-ion batteries that could enter mass production in 2026. Their energy density has already reached around 120 Wh/kg, approaching the level of low-end LFP batteries. As conventional LFP chemistry appears to be nearing its practical energy-density ceiling of roughly 190 Wh/kg, battery manufacturers are increasingly shifting their focus toward alternative chemistries and next-generation battery formats.

CATL updated the latest technology development on its 2026 Tech Day ([Link](#)), highlighting advances in ultra-fast charging, sodium-ion batteries, and its integrated battery swap and supercharging network. At the Beijing Auto Show, CATL emphasized battery-swapping infrastructure and sodium-ion batteries for extreme-temperature applications, with the company targeting 4,000 integrated swap-charge stations by the end of 2026. **Sunwoda also introduced its LxFP battery**, which combines LFP and NCM-based materials to improve capacity and energy density, reflecting the industry's broader push to enhance mature chemistries.

CATL continues to lead the industry in technology positioning, with this year's product focus centered on high-nickel, semi-solid/solid-state, and sodium-ion batteries. Its dominant 47% market share in China in 1Q26, combined with continued emphasis on safety, should help preserve its competitive moat. Nevertheless, rival battery makers are catching up more quickly than before. CALB and Sunwoda both demonstrated semi-solid/solid-state batteries with energy density at least on par with CATL, suggesting the competitive landscape in next-generation chemistry is becoming more crowded. Beyond core passenger EV applications, peers are also differentiating through specialized products, including CALB's ultra-long-life heavy-truck battery packs and Sunwoda's higher-energy-density LxFP solution. In ESS, CATL and Sunwoda both highlighted sodium-ion batteries, while Sunwoda stood out for offering a broader range of storage solutions across residential, commercial, and industrial segments.

BERNSTEIN TICKER TABLE

Ticker	Rating	24 Apr 2026		Price	TTM	Reported EPS				Reported P/E (x)		
		Cur	Closing			Cur	2025A	2026E	2027E	2025A	2026E	2027E
300750.CH (CATL)	O	CNY	444.90	620.00	47.6%	CNY	16.14	21.56	26.02	27.6	20.6	17.1
051910.KS (LG Chem)	M	KRW	387,500	298,000	30.2%	KRW	13,258.70	2,042.47	31,118	(29.2)	189.7	12.5
373220.KS (LGES)	M	KRW	479,000	347,000	(3.0)%	KRW	(5,308.10)	1,811.04	9,452.97	(90.2)	264.5	50.7
006400.KS (SDI)	M	KRW	642,000	330,000	204.4%	KRW	(9,933.80)	543.59	16,737	(64.6)	N/M	38.4
003670.KS (Posco Future M)	U	KRW	250,500	190,000	58.2%	KRW	(2,740.96)	376.72	898.20	(91.4)	664.9	278.9
247540.KS (EcoPro BM)	U	KRW	208,500	106,000	59.0%	KRW	(991.00)	279.00	344.00	(210.4)	747.3	606.1
002466.CH (Tianqi Lithium)	O	CNY	73.70	73.00	113.6%	CNY	0.28	3.29	6.18	261.2	22.4	11.9
9696.HK (Tianqi Lithium)	O	HKD	60.45	61.00	123.3%	CNY	0.28	3.29	6.18	186.8	16.0	8.5
3750.HK (CATL)	M	HKD	695.00	600.00	NA	CNY	16.14	21.56	26.02	37.6	28.1	23.3
ASIAX			1,827.77									

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended
003670.KS, 247540.KS base year is 2024;
Source: Bloomberg, Bernstein estimates and analysis.

INVESTMENT IMPLICATIONS

We rate CATL (A) Outperform, PT CNY620; CATL (H) Market-Perform, PT HKD600.



VALUATION COMPS TABLE

EXHIBIT 1: Global energy storage companies comparison

Battery comps

Company	Price 24-Apr	Curcy	EV USD mn	Mkt cap USD mn	P/E				EV/Sales				Sales Growth 24-25
LGES	479,000.0	KRW	95,238	75,924	65.6	-165.2	-153.2	328.1	3.7	5.4	5.9	5.1	-8%
CATL	444.9	CNY	282,195	300,897	49.5	42.3	30.1	21.7	4.9	5.5	4.6	3.3	19%
Samsung SDI	642,000.0	KRW	42,080	35,044	24.1	50.8	-97.0	456.6	2.4	3.5	4.7	4.1	-26%
Panasonic	1.607	JPY	23,722	44,346	28.6	15.4	19.9	27.6	0.4	0.4	0.4	0.5	7%
BYD	101.2	HKD	133,147	126,708	29.6	23.2	24.5	20.3	1.6	1.3	1.1	1.0	15%
SK Innovation	133.500	KRW	42,603	15,287	37.1	-16.2	-17.5	62.8	0.7	0.8	0.8	0.8	8%
Gotion High Tech	39.9	CNY	17,485	10,590	114.4	90.2	24.1	30.8	4.2	3.5	2.7	2.1	29%
EVE	72.8	CNY	27,036	22,939	38.3	38.9	35.0	21.5	3.9	4.0	2.8	2.2	41%
Sunwoda	27.8	CNY	10,887	7,504	48.9	32.6	25.4	17.7	1.5	1.4	1.1	0.9	25%
CALB	33.8	HKD	16,553	8,283	101.9	98.2	44.6	22.1	3.7	3.8	2.7	1.7	38%

Company	LTM %	Rel LTM %	LTM High	LTM Low	GPM (%) 24A	OPM (%) 24A	ND/E		23A	24A	25A	26E	25A EV/Capacity (USD M/GWh)
LGES	75%	-32%	428,500	181,500	14%	2%	31%	48%	28.2	39.7	28.2	24.0	269
CATL	92%	1%	455	228	28%	17%	-63%	-46%	29.9	23.9	19.4	14.1	377
Samsung SDI	248%	36%	820,000	157,700	18%	4%	13%	34%	16.1	22.8	124.9	29.8	669
Panasonic	88%	29%	3,082	1,411	30%	5%	17%	15%	5.0	4.5	4.1	5.4	395
BYD	-21%	-35%	159	89	21%	6%	-45%	5%	14.7	9.5	9.2	7.3	283
SK Innovation	41%	-45%	166,000	80,800	5%	1%	56%	68%	13.3	21.3	17.0	11.5	386
Gotion High Tech	100%	37%	49.8	20.1	18%	3%	111%	125%	49.4	30.1	19.3	17.7	81
EVE	80%	-6%	94.4	40.6	17%	9%	38%	49%	32.1	29.2	22.6	15.7	209
Sunwoda	50%	-22%	37.9	18.0	16%	2%	32%	61%	27.4	19.9	18.3	11.3	133
CALB	106%	73%	39.3	15.4	15%	5%	43%	77%	39.9	28.6	21.0	12.2	88

LGES, CATL, and Samsung SDI are covered by Neil Beveridge. BYD is covered by Eunice Lee

Source: Bloomberg (consensus estimates), Bernstein analysis

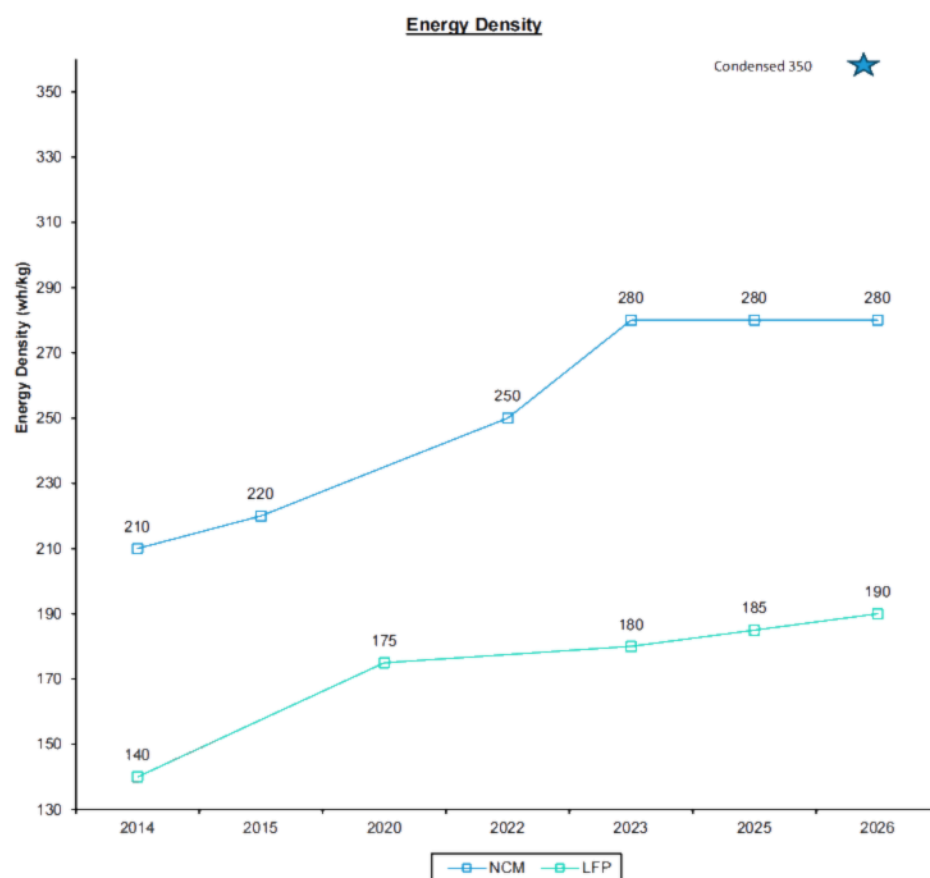
DETAILS

Several Chinese battery cell manufacturers participated in the Beijing Auto Show: CATL, Sunwoda, and CALB. CATL held product launch events during the first two days of the exhibition, while CALB showcased its battery products at its booth without a formal presentation. This note summarizes some of the key highlights.

PROGRESS TOWARDS HIGH ENERGY DENSITY BATTERIES

- CATL highlighted its Condensed Battery at its 2026 Tech Day, featuring an energy density of 360 Wh/kg, significantly above conventional LFP batteries, which appear to be approaching their practical ceiling of around 190 Wh/kg, and also well above NMC batteries which can offer up to 280 Wh/kg at the pack level (Qilin Gen 3). This underscores CATL's continued push into next-generation chemistries to break through the performance limits of existing battery systems.
- At the same time, other battery makers are making progress in the same direction, although CATL is leading in commercialization plans. CALB showcased a semi-solid battery with energy density reaching 400 Wh/kg, suitable for vehicle applications including small commercial trucks, while Sunwoda presented a polymer-based solid-state battery with a similar energy-density level.

EXHIBIT 2: Energy density of CATL batteries at the pack level. LFP is showing signs of plateauing while condensed batteries highlight the next step change in energy density.



Source: Company data

KEY TECHNOLOGY TRENDS HIGHLIGHTED AT THE AUTO SHOW

This year's exhibition showed battery demand is expanding beyond passenger EVs, with robotics, ESS, and commercial vehicles emerging as key growth areas.

- XPeng's "physical AI" strategy points to rising battery demand from robotics, while CATL and Sunwoda both placed greater emphasis on ESS, with Sunwoda showcasing storage solutions across residential, commercial, industrial, and data-center use cases.
- Sodium-ion was another major theme, with both CATL and Sunwoda targeting commercialization in 2026 as the chemistry approaches LFP-level energy density (180 wh/kg) while offering better low-temperature performance, safety, and cycle life.
- Sunwoda also introduced LxFP, which appears to combine LFP with NCM-based materials to improve energy density at a cost below pure NCM, suggesting a mid-market positioning between traditional LFP and ternary batteries.
- Both CALB and Sunwoda also highlighted ultra-long-life batteries and battery-pack solutions for commercial vehicles, reflecting growing focus on durability and lifecycle economics in the CV
- Battery performance under extreme conditions also drew attention, as both BYD and CATL demonstrated super-fast charging at -30°C, highlighting continued progress in low-temperature charging capability. BYD also showcased the Song Ultra EV, equipped with its latest battery technology, offering up to 710 km of range and flash-charging capability (RMB 170,000)

FIGURE 1: The electrification of all means of transportation and the deployment of ESS will increase the demand for batteries by an order of magnitude relative to current levels

Year	2023					2050				
Application	Sales addressable K units	Electrification %	Sales volume K units	Battery size kWh	Battery demand GWh	Sales addressable K units	Electrification %	Sales volume MM units	Battery size kWh	Battery demand GWh
EVs	74,399	18%	13,584	49	660	96,127	90%	86,620	84	7,296
Commercial vehicles	7,428	6%	425	101	43	11,490	85%	9,814	189	1,852
Two-wheelers	92,789	42%	39,015	1	37	96,291	93%	89,550	5	468
E-VTOL & Aviation	1	0%	0	100	0	500	100%	500	500	250
Ships (<10 k tons)	2	0%	0	10,000	0	3	100%	3	50,000	128
Humanoid robots	0	0%	0	3	0	100,000	100%	100,000	3	250
Energy storage	185					3,319				
Data center	3					541				
Total	928					14,105				

Source: SNE Research, IHS, Clarksons Research, Bloomberg, Bernstein estimates and analysis

COMPANY UPDATE AND EVENTS

CATL

At the Beijing Auto Show, CATL showcased the low-temperature performance of its Naxtra sodium-ion battery, highlighting operation under extreme conditions as low as -50°C, as well as its Choco battery-swapping and integrated supercharging stations.

At the technology day prior to the event CATL updated its latest technology roadmap at its 2026 Super Tech Day in Beijing, with the key highlights including 15C ultra-fast charging, a premium 1,000 km Qilin battery, a 1,500 km condensed battery, longer-range hybrid batteries, sodium-ion mass production, and an integrated swap-and-charge network. Overall, the announcements were more incremental than revolutionary, but they reinforce CATL's lead across fast charging, high energy density, hybrid applications, sodium-ion chemistry, and infrastructure. Key technologies highlighted at the event are highlighted below.

- **3rd-Gen Shenxing Fast Charging Battery:** supports 10C equivalent charging with a 15C peak rate, charging from 10% to 98% in 6.5 minutes and from 20% to 98% in around 9 minutes at -30°C, while retaining over 90% capacity after 1,000 cycles.
- **3rd-Gen Qilin Battery:** targets premium EVs with 280 Wh/kg, 600 Wh/L, and up to 1,000 km range; CATL said a 125 kWh pack weighs only 625 kg, well below comparable alternatives.
- **Qilin Condensed Battery:** delivers 350 Wh/kg and up to 1,500 km range for sedans, highlighting CATL's push into higher-energy-density next-generation formats.
- **Freevoy Super Hybrid Battery:** offers up to 500 km EV range in the LFP version, 600 km in the NCM version, and up to 2,000 km total range, narrowing the gap between hybrids and BEVs.
- **Naxtra Sodium-Ion Battery:** is moving toward large-scale mass production by end-2026, with energy density of around 175 Wh/kg and strong performance in extreme low temperatures, safety, and ESS applications.
- **Choco-Swap / integrated swap-and-charge network:** CATL aims to build 4,000 integrated stations by end-2026, expanding its ecosystem reach beyond batteries into infrastructure.

CALB

- CALB introduced its solid-liquid hybrid battery, with energy density reaching up to 400 Wh/kg, and also showcased an ultra-long-life battery pack for heavy trucks with cycle life exceeding 10,000 cycles.
- While its fast-charging capability still trails CATL's latest products, CALB appears to have built a relatively mature product roadmap in energy density and battery-pack solutions, particularly for commercial vehicles. At the same time, the company continues to invest in semi-solid and solid-state battery R&D, reinforcing its position as one of China's leading battery makers.

SUNWODA

- At this exhibition, Sunwoda presented a broader and more diversified product portfolio spanning passenger EVs, robotics, and ESS. In ESS, the company showcased solutions tailored to different use cases, from residential and commercial applications to industrial and data-center storage.
- Sunwoda also continued to push sodium-ion batteries, with management indicating that the technology is becoming increasingly mature for commercialization and that energy density has already reached around 180 Wh/kg which is approaching that of LFP. Its NCM and LFP products remain competitive with leading peers, while one of the more interesting developments was LxFP, which appears to combine LFP with NCM-based materials to lift energy density to above 200 Wh/kg.
- Although Sunwoda's fast-charging capability still trails CATL, the company is offering a broader product strategy aimed at different applications and usage scenarios.