



REPORTS | **BATTERY ENERGY STORAGE SYSTEMS MANUFACTURER RANKING**

EDITION 3 - 2026





Welcome to the Edition 3 – 2026 version of the SINOVOLTAICS BESS Manufacturer Ranking Report.

For the purpose of this report, Battery Energy Storage Systems (BESS) refer to integrated systems designed for storing electrical energy using batteries, including key components such as battery cells, battery management systems (BMS), and power conversion systems (PCS).

The Altman Z-Scores presented in this report have been calculated from September 2023 to June 2026, providing detailed insight into how the financial strength of BESS manufacturers has evolved over the past three years. The ranking includes manufacturers across all market segments and scales, offering a comprehensive view of both established players and emerging companies in the global BESS landscape.

For readability, the term “BESS manufacturers” used throughout this report refers collectively to manufacturers, OEMs, and system integrators.

What's the value of Altman Z-Score?

Altman-Z Scores are calculated to understand which BESS manufacturers are financially stable, and which players are at risk of going bankrupt.

For any stakeholder involved in solar PV and energy storage projects, the financial stability of the manufacturer is of crucial importance.

Selecting BESS solutions from financially stable manufacturers helps mitigate the risk of declining return on investment (ROI) in BESS projects.

Why is financial stability important?

In this rapidly emerging BESS market, with its wide variety of existing and in-development technologies, purchasers are faced with a complex and challenging choice of manufacturers, many of which have only recently entered the sector. In such a young market, where warranty periods typically range between 2 and 10 years, the financial stability of a BESS manufacturer is critical, as it directly impacts the validity and enforceability of product warranties.

While it is widely recognized that not all of today's manufacturers will still be active in the years ahead, ensuring short- to medium-term reliability remains essential. Stakeholders must be confident that warranty obligations will be honored when needed.

Looking ahead, many solar PV and BESS projects may face a difficult question: who can be relied upon for performance support, warranty claims, or replacement of malfunctioning systems after 2, 5, or even 10 years?

2023 - 2026: Rating of BESS Manufacturers Worldwide

In this report, we present the Altman Z-Scores of **60+ BESS manufacturers**. It enables stakeholders to benchmark manufacturers against one another and serves as a valuable indicator when selecting a BESS supplier.

The Altman Z-Scores provide insight into which BESS manufacturers are financially strong, and which are in the risk zone of potential bankruptcy within the coming two years.

On the following pages, you will find the full table presenting the Altman Z-Scores of major, publicly listed BESS manufacturers across Asia, Europe, and the Americas.

Selected private BESS companies are also included to provide a more comprehensive overview of the global BESS market. As Altman Z-Scores require publicly available financial data, these companies are marked as: “Private company – financial data unavailable for Altman Z-Score calculation.”

The scores have been calculated by the Sinovoltaics team using publicly available financial data.

MANUFACTURERS	RANKING	TREND	ZONE	SEP23	DEC23	MAR24	JUN24	SEP24	DEC24	MAR25	JUN25	SEP25	DEC25	MAR26	JUN26	LISTING
TESLA	1	↑	SAFE	14.54	14.21	9.6	10.86	12.73	17.52	11.3	14.41	19.13	18.69	16.1	17.58	NAS:TSLA
DELTA ELECTRONICS	2	↑	SAFE	4.09	4.12	4.28	4.22	4.1	4.4	3.89	4.1	6.41	6.77	6.77	11.66	TPE:2308
HYUNDAI ELECTRIC	3	↓	SAFE	2.11	2.31	3.83	5	5.57	6.44	4.87	5.84	7.05	8.32	9.02	8.30	XKRX:267260
KUNG LONG BATTERIES	4	↑	SAFE	5.31	6.89	7.44	8.01	6.07	8.29	7.83	7.71	5.63	6.91	7.1	7.17	TPE:1537
ZHONGTIAN TECHNOLOGY	5	↑	SAFE	3.66	3.2	3.34	3.64	3.36	3.21	3.19	3.31	3.46	3.35	4.3	7.08	SHSE:600522
SINEXCEL (SHENZHEN SINEXCEL ELECTRIC)	6	↑	SAFE	5.57	4.9	4.86	4.28	4.9	5.08	5.32	5.39	6.09	5.38	5.87	6.87	SZSE:300693
ABB	7	↑	SAFE	3.53	3.79	3.84	4.53	4.57	4.51	3.97	4.37	4.97	5.12	5.18	6.01	SWX:ABBN
GENERAC	8	↑	SAFE	3.38	3.7	3.67	3.77	4.13	4.3	3.96	3.95	4.09	3.57	4.35	5.54	NYSE:GNRC
ENERSYS	9	↑	SAFE	3.87	3.93	3.88	4.03	3.99	3.46	3.36	3.52	3.65	4.05	4.3	5.07	NYSE:ENS
YUASA BATTERY	10	↓	SAFE	4.98	4.57	4.63	4.79	4.66	4.38	4.31	4.51	4.78	4.78	5.03	4.85	BKK:YUASA
SUNGROW	11	↑	SAFE	3.39	3.46	3.8	3.21	3.59	3.01	2.97	3.2	4.91	5.29	4.62	4.76	SZSE:300274
CENTER POWER	12	↑	SAFE	2.59	2.97	2.95	2.46	2.37	2.39	2.62	2.85	3.22	2.96	3.37	4.24	SZSE:002733
SACRED SUN (SHANDONG SACRED SUN POWER SOURCES CO LTD)	13	↓	SAFE	4.25	4.08	3.8	3.36	3.65	3.59	4.57	4.52	4.34	3.9	4.75	4.12	SZSE:002580
GE VERNOVA	14	↑	SAFE	0	0	1.31	1.66	1.91	2.27	2.15	2.9	3.2	2.96	3.29	4.10	NYSE:GEV
EATON	15	↓	SAFE	4.13	4.47	5.31	5.39	5.44	5.43	4.46	5.39	5.38	4.93	5.27	3.97	NYSE:ETN
HYPERSTRONG	16	↑	SAFE				0	0	0	2.58	2.56	5.1	3.87	3.41	3.92	SHSE:688411
FESE (FAR EAST SMARTER ENERGY)	17	↑	SAFE	1.69	1.68	1.67	1.66	1.63	1.68	1.68	1.74	2.02	2.02	2.43	3.90	SHSE:600869
SCHNEIDER ELECTRIC	18	↑	SAFE		2.93				3.33				3.62	3.62	3.88	ENXTPA:SU
KEHUA TECH	19	↑	SAFE	2.28	2.27	2.43	2	1.97	2.06	3.16	2.93	3.92	3	3.55	3.82	SZSE:002335
GREENSMITH ENERGY (WÄRTSILÄ)	20	↓	SAFE	2.28	2.62	2.73	2.88	3.01	2.92	2.77	2.96	3.42	3.8	3.77	3.65	OHEL:WRTIV

**The trend column in the table reflects a comparison of the current quarter score to the previous one.*

MANUFACTURERS	RANKING	TREND	ZONE	SEP23	DEC23	MAR24	JUN24	SEP24	DEC24	MAR25	JUN25	SEP25	DEC25	MAR26	JUN26	LISTING
ENPHASE ENERGY	21	↑	SAFE	5.93	6.37	5.82	4.77	5	3.31	3.04	2.33	2.23	2.04	3.02	3.58	NAS:ENPH
SOLAX POWER	22	↓	SAFE	0	0	9.06	4.33	5.27	4.3	4.68	4.02	4.5	3.6	4.49	3.58	SHSE:688717
GOODWE	23	↑	SAFE	5.53	5.41	4.67	3.26	3.23	2.41	2.65	2.55	2.98	2.8	3.16	3.44	SHSE:688390
DMEGC SOLAR (DMEGC MAGNETICS GROUP)	24	↑	SAFE	3.4	2.84	3.07	2.75	2.85	2.73	2.7	2.86	3.26	3.23	2.88	3.39	SZSE:002056
CATL (CONTEMPORARY AMPEREX TECHNOLOGY CO)	25	↓	SAFE	2.48	2.23	2.36	2.24	2.65	2.8	2.51	2.59	3.31	3.13	3.14	3.04	SZSE:300750
JOHNSON CONTROLS	26	↑	SAFE	1.7	1.74	1.84	1.71	1.99	1.93	1.84	2.33	2.36	2.56	2.73	3.04	NYSE:JCI
PYLONTECH (PYLON TECHNOLOGIES)	27	↓	SAFE	6.67	5.64	4.86	3.38	3.97	3.48	3.59	3.36	4.03	3.76	3.61	2.88	SHSE:688063
HOYMILES	28	↓	SAFE	20.12	17.48	12.82	7.14	7.8	5.39	5.44	4.54	5.49	4	3.59	2.65	SHSE:688032
DESAY BATTERY	29	↑	SAFE	3.44	3.02	2.63	2.7	2.78	2.46	2.44	2.63	2.63	2.51	2.48	2.65	SZSE:000049
NIDEC CORPORATION	30	↑	SAFE	3.21	3	3.14	3.16	3.09	2.85	2.65	3.1	2.89	2.48	2.37	2.64	OTCPK:NJDCY
INVINITY ENERGY SYSTEMS	31	↑	GREY	-1.73	-1.8	-1.88	-1.95	-2.02	-2.1	-2.05	-2	-1.95	-1.9	-1.9	2.59	LSE:IES
EAST GROUP	32	↓	GREY	2.69	2.77	2.72	2.23	2.02	2.3	2.25	2.15	2.36	2.47	2.41	2.36	SZSE:300376
SONNEN (SHELL PLC)	33	↓	GREY	2.54	2.54	2.36	2.37	2.34	2.26	2.27	2.25	2.23	2.3	2.5	2.28	NYSE:SHEL
GREAT POWER (GUANGZHOU GREAT POWER ENERGY&TECHNOLOGY CO LTD)	34	↑	GREY	1.9	1.56	1.37	1.12	1.51	1.38	1.34	1.26	1.4	1.65	1.71	2.27	SZSE:300438
SHOTO / SHUANGDENG GROUP	35	↓	GREY		0				0				2.8	2.8	2.24	HKSE:06960
SIEMENS ENERGY	36	↑	GREY	0.27	0.53	0.6	0.82	0.96	1.03	1.15	1.69	1.76	1.96	1.96	2.22	XTRA:ENR
BASF	37	↓	GREY	2.3	2.28	2.52	2.31	2.15	2.23	2.2	2.18	2.2	2.31	2.43	2.20	XTER:BAS
FLUENCE ENERGY INC	38	↑	GREY	3.68	2.64	2.72	2.49	2.87	2.6	1.62	1.49	2.01	2	1.82	2.06	NAS:FLNC
FARADION (RELIANCE INDUSTRIES)	39	↑	GREY	1.97	2.1	2.31	2.33	2.53	1.91	1.91	2.01	2.24	2.02	1.88	2.01	NSE:RELIANCE
GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI	40	↑	GREY	1.8	1.83	1.89	1.79	2.03	2.12	2.02	1.85	1.84	2.12	1.81	1.94	SZSE:000651

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MANUFACTURERS	RANKING	TREND	ZONE	SEP23	DEC23	MAR24	JUN24	SEP24	DEC24	MAR25	JUN25	SEP25	DEC25	MAR26	JUN26	LISTING
GANFENG LITHIUM	41	↓	GREY	3.39	2.79	2.25	1.67	1.46	1.3	1.09	1.06	1.48	1.58	1.91	1.90	HKSE:01772
EVE ENERGY	42	↑	GREY	1.95	1.85	1.83	1.73	1.87	1.79	1.77	1.76	2.49	2.01	1.82	1.86	SZSE:300014
SAMSUNG SDI	43	↑	GREY	2.91	2.81	2.74	2.35	2.13	1.73	1.32	1.25	1.26	1.32	1.64	1.76	XKRX:006400
BYD	44	↓	GREY	1.79	1.74	1.61	1.75	2	1.76	2.32	2.34	2.16	2	2.01	1.67	HKSE:01211
CIMC (CHINA INTL MARINE CONTAINERS)	45	↓	GREY	1.57	1.48	1.53	1.56	1.68	1.82	1.9	1.83	1.77	1.76	1.72	1.60	SZSE:000039
LG ENERGY SOLUTION	46	↓	GREY	4.71	4.13	3.47	3.17	3.26	2.47	2.15	1.91	1.96	1.86	2.01	1.56	XKRX:373220
SAFT (TOTALENERGIES)	47	↓	GREY	1.84	1.85	1.81	1.8	1.67	1.48	1.5	1.43	1.45	1.54	1.57	1.46	NYSE:TTE
CRRC ZHUZHOU (CRRC CORP)	48	↓	GREY	1.22	1.22	1.28	1.31	1.27	1.27	1.27	1.24	1.22	1.24	1.32	1.25	SHSE:601766
SUNWODA	49	↓	DISTRESS	1.36	1.26	1.26	1.22	1.36	1.3	1.27	1.25	1.47	1.24	1.22	0.97	SZSE:300207
SK INNOVATION	50	↑	DISTRESS	1.58	1.47	1.43	1.32	1.28	1.23	0.87	0.87	0.89	0.95	0.87	0.89	XKRX:096770
JINKOSOLAR	51	↓	DISTRESS	2.02	2.07	2.03	1.85	1.91	1.73	1.68	1.31	1.2	1.09	1.16	0.84	SHSE:688223
SOLAREDGE TECHNOLOGIES	52	↑	DISTRESS	3.98	3.06	2.48	1.28	-0.97	-1.64	-1.6	-1.61	0.16	0.18	0.18	0.80	NAS:SEDG
GOTION HIGH-TECH CO	53	↓	DISTRESS	0.96	0.88	0.88	0.71	0.77	0.73	0.74	0.88	1.04	0.97	0.92	0.75	SZSE:002074
TRINA SOLAR	54	↓	DISTRESS	1.83	1.75	1.69	1.51	1.4	1.24	1.2	0.92	0.81	0.79	0.79	0.73	SHSE:688599
FARASIS ENERGY (GAN ZHOU)	55	↓	DISTRESS	1.2	0.85	0.71	0.67	0.96	0.97	1.07	0.9	1.16	0.93	0.8	0.69	SHSE:688567
CANADIAN SOLAR (E-STORAGE)	56	↓	DISTRESS	1.29	1.12	0.99	0.88	0.75	0.71	0.63	0.63	0.62	0.61	0.61	0.60	NAS:CSIQ
CALB GROUP CO LTD	57	↓	DISTRESS				0.53				0.35	0.6	0.52	0.59	0.53	HKSE:03931
CLOU ELECTRONICS	58	↓	DISTRESS	0.61	0.16	0.04	-0.08	-0.22	-0.12	0.01	0.31	0.97	0.78	0.68	0.40	SZSE:002121
RISEN ENERGY	59	↓	DISTRESS	1.24	1.08	1.04	0.73	0.6	0.27	0.22	0.21	0.2	0.2	0.19	0.07	SZSE:300118
CBAK ENERGY	60	↓	DISTRESS	0.02	0.15	0.19	0.53	0.78	0.49	0.22	0.12	-0.2	-0.17	-0.18	-0.29	NAS:CBAT

*The trend column in the table reflects a comparison of the current quarter score to the previous one.

MANUFACTURERS	RANKING	TREND	ZONE	SEP23	DEC23	MAR24	JUN24	SEP24	DEC24	MAR25	JUN25	SEP25	DEC25	MAR26	JUN26	LISTING
NARADA	61	↓	DISTRESS	1.56	1.5	1.46	1.1	1.29	1.26	1.3	0.44	0.61	0.45	0.35	-0.54	SZSE:300068
MICROVAST	62	↓	DISTRESS	-0.37	-0.61	-0.85	-1.06	-1.42	-0.43	-1.11	0.19	-0.39	-0.79	-0.8	-0.86	NAS:MVST
EOS ENERGY ENTERPRISES	63	↑	DISTRESS	-10.38	-9.08	-11.39	-5.5	-14.2	-15.66	-14.8	-13.1	-20.07	-5.9	-5.9	-3.77	NAS:EOSE
STEM INC	64	↓	DISTRESS	-0.08	-0.17	-0.59	-5.58	-8.58	-11.09	-11.74	-4.96	-4.03	-4.41	-4.41	-4.93	NYSE:STEM
ESS TECH INC	65	↓	DISTRESS	-2.29	-4.73	-7.11	-8.68	-12.21	-17.88	-25.53	-34.88	-37.41	-26.22	-26.22	-27.95	NYSE:GWH

**The trend column in the table reflects a comparison of the current quarter score to the previous one.*

Graph overview

Graph #1 – Latest BESS manufacturers ranking, recorded in June 2026

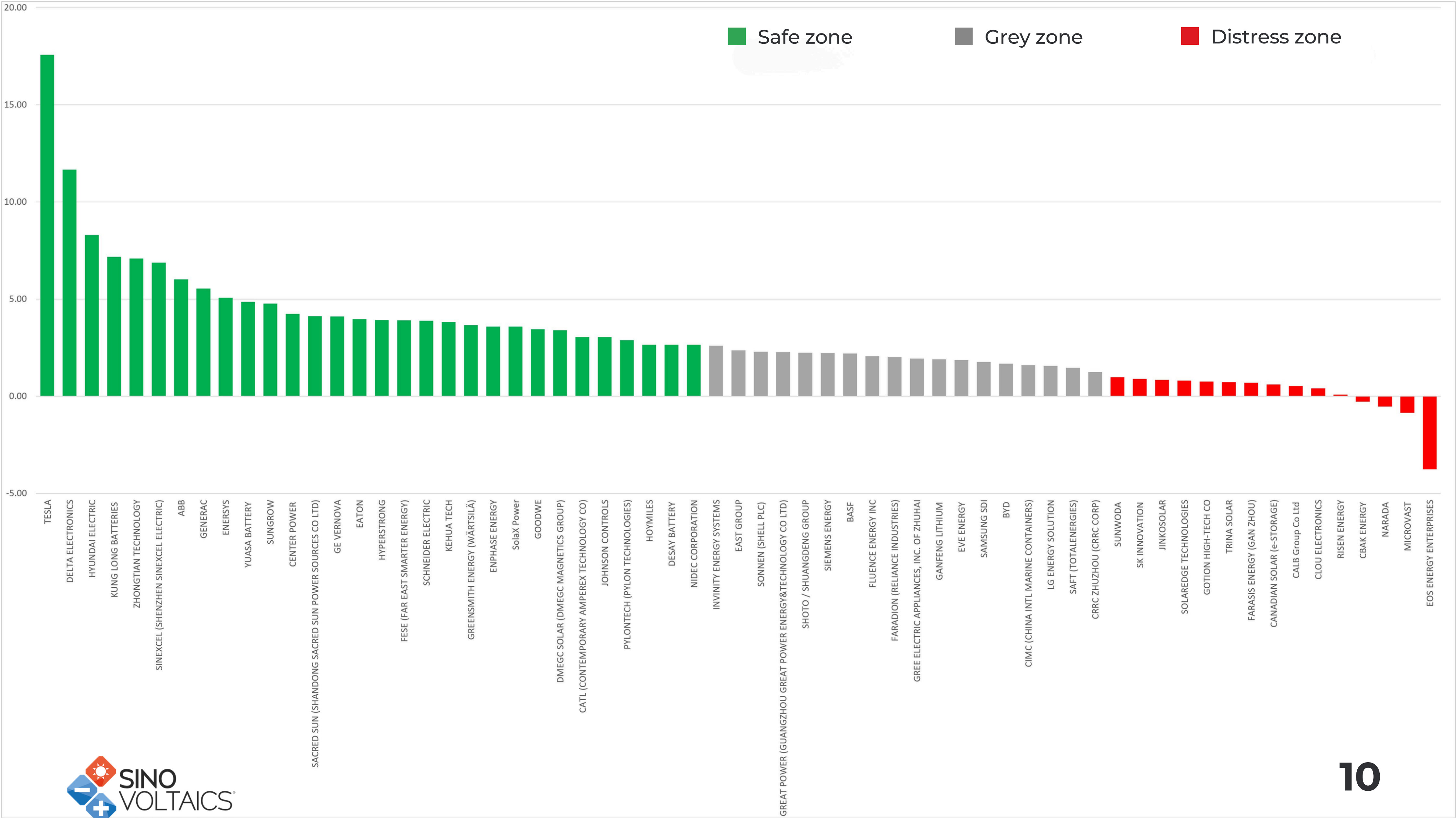
Graph #2 – BESS manufacturers currently in the Safe Zone

Graph #3 – BESS manufacturers currently in the Grey Zone

Graph #4 – BESS manufacturers currently in the Distress Zone

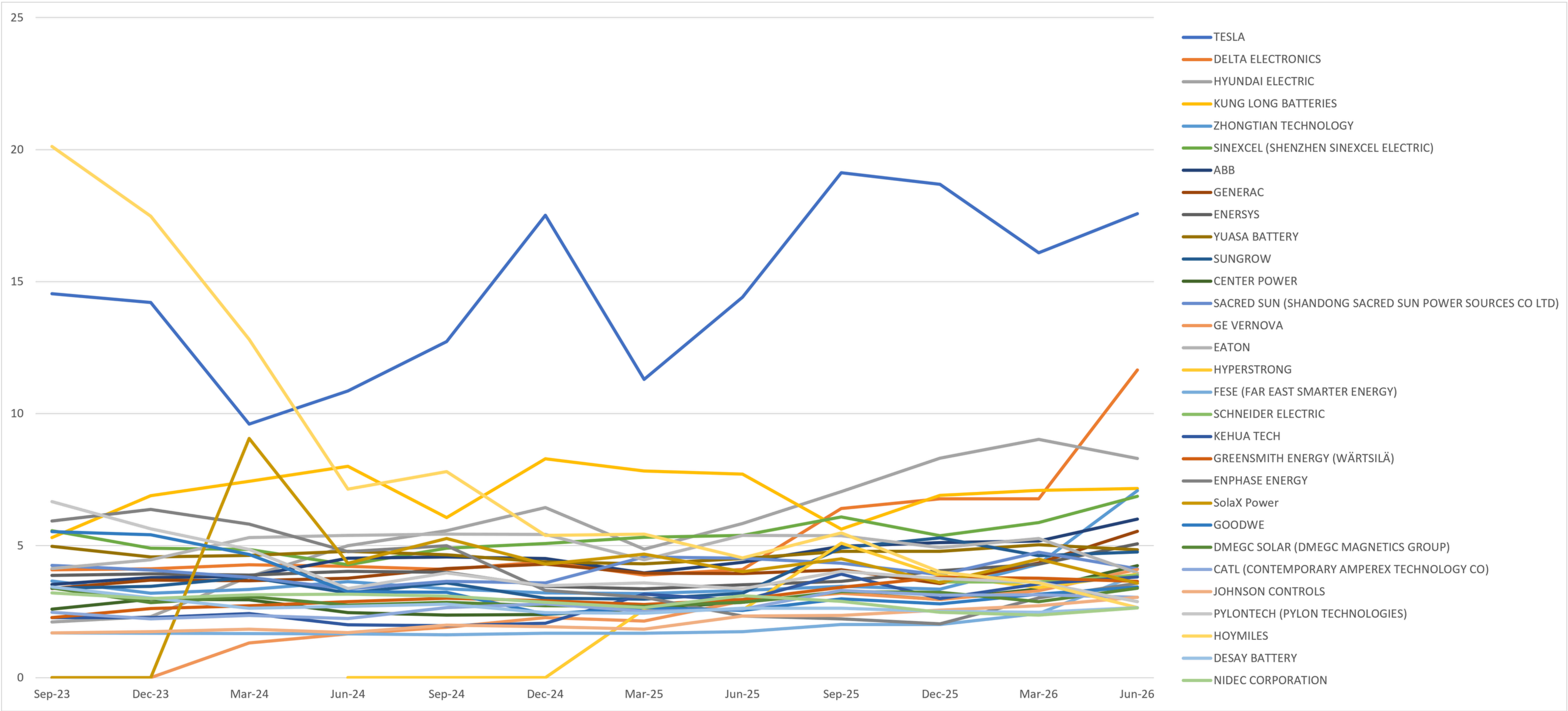
Graph #1 – Full ranking overview of BESS Manufacturers

Sinovoltaics BESS Manufacturer Ranking: Edition 3 – 2026



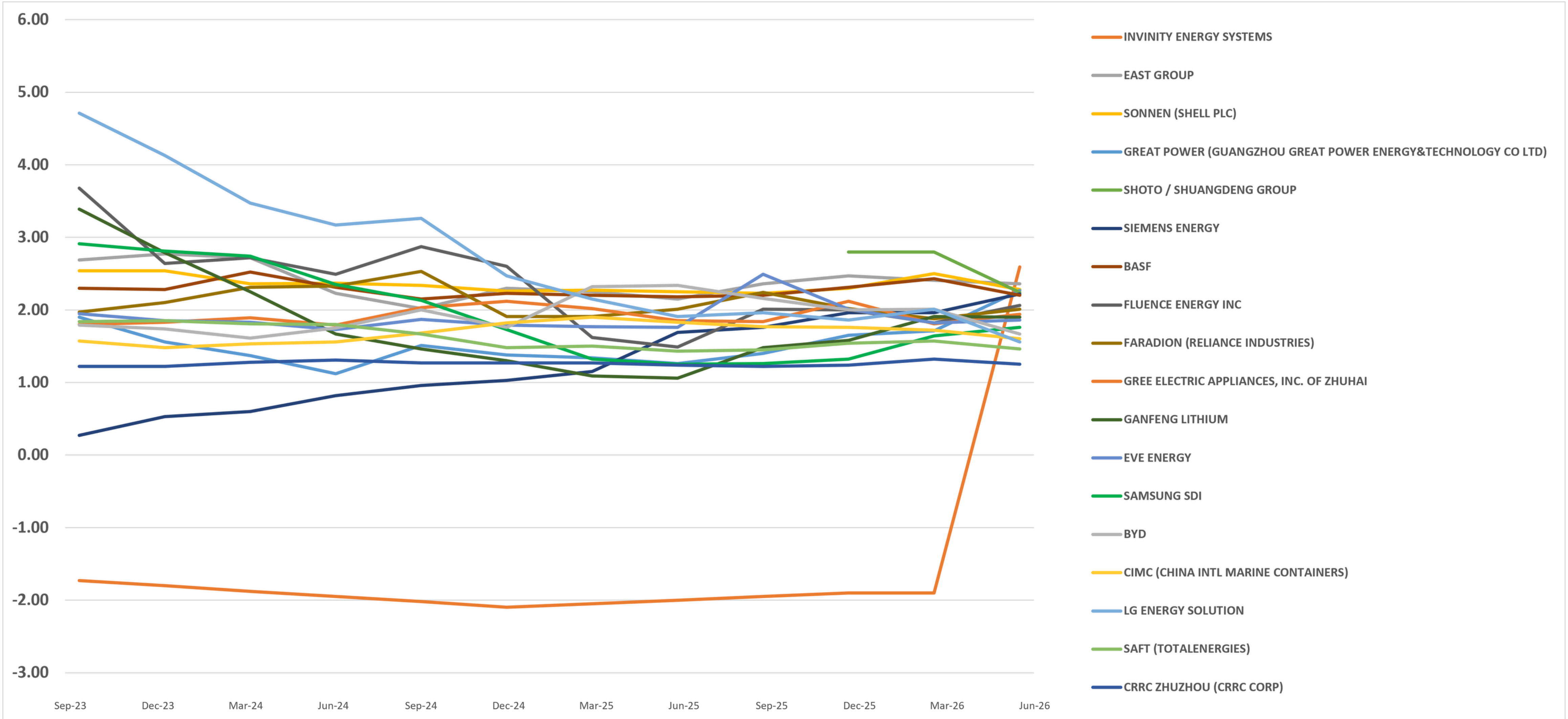
Graph #2 – BESS Manufacturers in the Safe Zone

Sinovoltaics BESS Manufacturer Ranking: Edition 3 – 2026



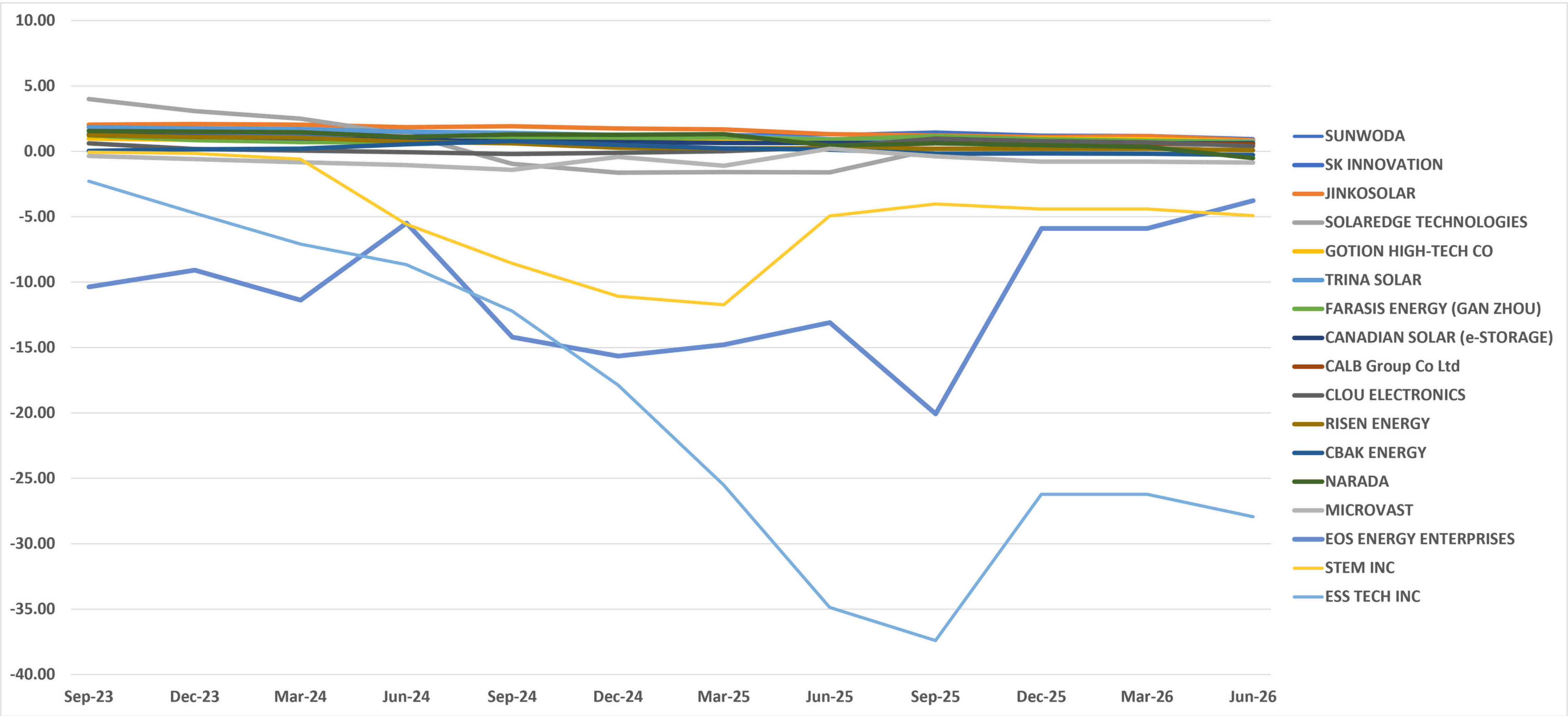
Graph #3 – BESS Manufacturers in the Grey Zone

Sinovoltaics BESS Manufacturer Ranking: Edition 3 – 2026



Graph #4 – BESS Manufacturers in the Distress Zone

Sinovoltaics BESS Manufacturer Ranking: Edition 3 – 2026



Other BESS Companies worth noting

- *Altman Z-Scores can only be calculated for companies with publicly available financial data.*
- *For alternative financial assessments, please contact Sinovoltaics.*

COMPANY	STATUS	ALTMAN-Z SCORE
HUAWEI DIGITAL POWER	PRIVATE	Contact Sinovoltaics
HITHIUM	PRIVATE	Contact Sinovoltaics
ENVISION ENERGY / AESC	PRIVATE	Contact Sinovoltaics
SERMATEC	PRIVATE	Contact Sinovoltaics
NHOA ENERGY	PRIVATE	Contact Sinovoltaics
ALPHAESS	PRIVATE	Contact Sinovoltaics
COSPOWERS	PRIVATE	Contact Sinovoltaics
CUBENERGY	PRIVATE	Contact Sinovoltaics

How is the Sinovoltaics Ranking Score calculated?

The Sinovoltaics BESS Manufacturer Ranking Score is based on the Altman Z-Score:

Altman Z-Score = 1.2A + 1.4B + 3.3C + 0.6D + 1.0E

The original formula is broken down as following:

A	Working Capital/Total Assets: measures liquid assets in relation to the size of the company.
B	Retained Earnings/Total Assets: measures profitability that reflects the company's age and earning power.
C	Earnings Before Interest & Tax/Total Assets: measures operating efficiency apart from tax and leveraging factors. It recognizes operative earnings as being important to long-term viability.
D	Market Value of Equity/Total Liabilities: adds market dimension that can show up security price fluctuation as a possible red flag.
E	Sales/Total Assets: a standard measure for total asset turnover.

How are the Altman Z-Scores interpreted?

The scores are categorized into 3 zones called Safe Zone, Grey Zone and Distress Zone:

$Z \geq 2.6$	Safe Zone
$1.1 < Z < 2.6$	Grey Zone
$Z \leq 1.1$	Distress Zone

How to interpret companies in the ‘SAFE ZONE’?

A manufacturer in the 'Safe Zone' is generally a preferred choice, as it indicates stronger financial health and a lower risk of financial distress. Reviewing the company's Altman Z-Score trend over multiple years provides a more complete picture of its financial stability.

Take **KUNG LONG BATTERIES**, the company has steadily improved its financial position and has now reached the Safe Zone. Here are its Altman Z-Scores over the years:

5.31 on Q3 2023

8.29 on Q4 2024

7.83 on Q1 2025

7.17 on Q2 2026

KUNG LONG BATTERIES

Currently stands at 7.17 (June'26)

This edition **identifies 30 energy storage manufacturers in the safe zone** (Altman Z-Score ≥ 2.6), representing an **increase from 26 in the previous edition**. The results suggest continued improvement in the financial stability of the sector.

CENTER POWER, headquartered in Shenzhen, Guangdong Province, China, recorded an **Altman Z-Score of 4.24 as of June 2026**. Although the company's Altman Z-Score fluctuated within the grey zone during part of the reporting period, it improved steadily from Q1 2025 onward, reaching 4.24 in June 2026. The latest score represents the company's highest Altman Z-Score during the analysis period and reflects its return to and continued position within the safe zone ($AZ \geq 2.6$).

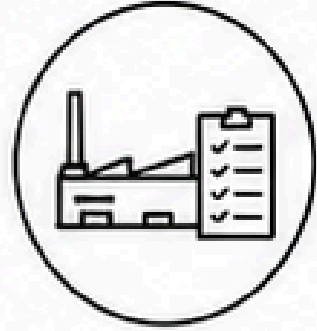
ENPHASE ENERGY, headquartered in Fremont, California, United States, recorded an **Altman Z-Score of 3.58 as of June 2026**. The company's Altman Z-Score declined from 5.93 in Q3 2023 to a low of 2.04 in Q4 2025 before improving to 3.58 in June 2026. The latest score represents the company's return to the safe zone ($AZ \geq 2.6$) following a period in the grey zone.

CENTER POWER	ENPHASE ENERGY
2.59 Q3 2023	5.93 Q3 2023
2.39 Q4 2024	3.31 Q4 2024
2.62 Q1 2025	3.04 Q1 2025
4.24 Q2 2026	3.58 Q2 2026

Discover our **ZERO RISK BESS SERVICES**

BESS QUALITY ASSURANCE

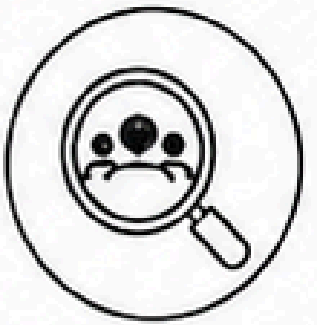
FACTORY AUDIT



Make a fully informed decision on the factories you're procuring from. Our accredited auditors provide you with full insights into the manufacturing capabilities of any BESS or battery factory worldwide. Use our audit scorecard system to enhance your supplier selection.

- Quality audits
- Supply Chain Mapping and Traceability audit
- ESG Audit

SUPPLIER SELECTION SUPPORT



We support you shortlisting the most suitable Battery Energy Storage System (BESS) suppliers for your project. This process is based on a structured evaluation of technical, commercial, and project-specific criteria, ensuring alignment with your requirements and priorities.

CONTRACT NEGOTIATION SUPPORT



Leverage our expertise from reviewing GWh's of BESS projects that revealed manufacturers' legal strategies for shipping average-quality units. Work with us to strengthen your BESS contract, and key documents like Factory Acceptance Testing (FAT) checklists, ensuring you secure the quality you deserve.

BESS QUALITY INSPECTIONS



Hire our BESS specialized quality engineers to inspect your battery energy storage components on-site at the factories in Asia.

- BESS containers
- Battery modules / packs
- Battery cells
- PCS / inverters

OUR SERVICES COVER:

- Bill of Material (BOM) review
- Production Monitoring
- Factory Acceptance Testing (FAT)
- BESecure analysis
- Container and Loading Supervision

SITE COMMISSIONING



Are you concerned about the performance of your batteries during site commissioning?

Whether due to substandard FAT, potential transportation damages, or the need for a thorough performance review before BESS ownership transfer, our team can support you during cold and hot commissioning at your project's site.

SINOVOLTAICS BESSECURETM



Traditional FAT's capacity tests focus only on the BESS discharging capacity and Round-Trip efficiency. Our analysis tool go beyond that to do a full health checkup of your BESS before they leave the factory.

WHY CHOOSE BESSECURE?

- Evaluate 200-300 datapoints per container
- Discharging capacity & RTE per battery rack to identify bad apples
- Temperature-related KPIs that anticipate accelerated degradation
- Voltage-related deviations that assess BMS performance and calibration

WHY SINOVOLTAICS?

- 15+ years of quality assurance experience in Asia
- Specialized in BESS and PV projects support
- ISO 17020 certified company for inspection bodies
- Trusted partner for BESS and solar bankability

15+ YEARS

at the
factories in Asia

10GWh+

Zero Risk
BESS projects

26GWp+

Zero Risk
Solar projects

350+

PV & BESS
Factories Audited



www.sinovoltaics.com | contact@sinovoltaics.com