

SUPPLIER EVALUATION REPORT

10 kWh LFP battery energy storage system

Residential / small C&I storage sourced from China. Shortlist comparison, factory checklist, certification check, risk flags and recommendation.

SAMPLE – illustrative format. This document shows how an SFXL supplier evaluation is structured. Suppliers are anonymized as Supplier A, B and C. All scores, findings, statuses and recommendations are **illustrative placeholders** and are not the results of a real assessment. Named standards and regulations are referenced to public sources (see Sources).

Report reference	SFXL-SER-SAMPLE-001 (illustrative)
Product	10 kWh lithium iron phosphate (LFP) battery energy storage system, wall- or floor-mounted
Sourcing region	China
Example target markets	Germany / EU, United Kingdom, United States (applicable requirements differ by market)
Suppliers evaluated	3 (Supplier A, Supplier B, Supplier C – anonymized)
Evaluation methods	Desk review, document review, remote or on-site factory check, structured supplier Q&A

1 Scope

Example buyer requirements

- Usable energy around 10 kWh, LFP cell chemistry
- Low-voltage (e.g. 48/51.2 V) or high-voltage stack, as specified by the buyer
- Integrated BMS with documented communication to the buyer's hybrid inverter
- Enclosure rating and operating temperature range suited to the installation site
- Documentation for the buyer's target market(s) and for transport as dangerous goods

What this evaluation covers

- Supplier identity and type (manufacturer, pack assembler or trading company)
- Production capability and quality controls (checklist, Section 3)
- Completeness and consistency of certificates and test documents (Section 4)
- Risk flags and a recommended next step (Sections 5–6)

Not in scope: product testing, certification, legal or regulatory advice. Testing and certification are carried out by accredited third parties.

2 Shortlist comparison

Each supplier is scored 1–5 per criterion (5 = strongest evidence). Weights reflect the example buyer's priorities and are agreed with the buyer before scoring. **All profiles and scores below are illustrative placeholders.**

Profile (illustrative)	Supplier A	Supplier B	Supplier C
Supplier type	Integrated manufacturer (pack + BMS integration)	Pack assembler, cells purchased	Trading company, factory not yet identified
Product offered	10 kWh LV wall-mount, LFP	10 kWh LV rack/floor, LFP	10 kWh LV wall-mount, LFP
Cell source disclosed	Yes, with cell datasheet	Yes, datasheet pending	Not disclosed

Criterion	Weight	Supplier A	Supplier B	Supplier C
Company and legal verification	10%	4	4	3
Manufacturing capability and process control	20%	4	3	2
Quality management system and traceability	15%	4	3	2
Certification coverage for target market	25%	4	3	2
Product fit to buyer specification	15%	4	4	3
Communication and responsiveness	10%	3	4	4
After-sales and warranty-claim process (documented)	5%	3	3	2
Weighted score (illustrative, out of 5)	100%	3.90	3.30	2.35

Placeholder values for format illustration only. Commercial terms are evaluated separately with the buyer and are not part of this sample.

How to read the comparison

- **Certification coverage** carries the highest weight because missing or mismatched documents can block market access, grid connection or transport.
- **Supplier type** matters: a trading company can be a valid partner, but the actual factory must be identified and checked before an order.
- Scores are evidence-based: a criterion without supporting documents or observations is scored low until evidence is provided.

3 Factory / audit checklist

Checklist used during the remote or on-site factory check. Status key: ✓ evidence seen · ! partial / follow-up needed · ✗ not available · – not checked. **Statuses are illustrative.**

Area	What we check	A	B	C
Business registration	Business licence, registered scope, factory address matches documents	✓	✓	!
Export experience	Export documentation for comparable products and markets	✓	✓	!
Production lines and capacity	Lines observed, shift pattern, stated capacity vs. observed activity	✓	!	–
Incoming cell inspection	Cell grade, supplier datasheet, incoming test (voltage / IR), batch records	✓	!	✗
BMS and firmware control	BMS source, firmware version control, inverter compatibility list	✓	✓	!
Pack assembly process	Busbar welding/torque control, insulation, work instructions at stations	✓	!	–
End-of-line testing	Capacity check, insulation resistance, BMS protection functions, test logs	✓	✓	–
Ageing / formation records	Procedure and records linked to serial numbers	!	!	–
Quality management system	QMS certificate presented (e.g. ISO 9001), scope and validity checked	✓	✓	!
Traceability	Serial / QR labelling from cell batch to finished pack	✓	!	✗
Safety and ESD controls	Fire protection in production and storage areas, ESD measures	✓	✓	–
Dangerous-goods packing	Packing for Class 9 lithium battery shipments, labels, SoC at shipment	✓	!	!
After-sales / RMA	Documented claim process, spare parts, remote diagnostics	!	!	✗

“–” for Supplier C: the manufacturing site was not identified, so on-site items could not be checked (illustrative).

Evidence collected (format example)

For each checklist item, the evaluation file holds the evidence reference (photo, video walk-through timestamp, document ID) and the reviewer's note. In the SFXL client portal, these records are attached to the order so the buyer can review them before approving the next step.

4 Certification check

Documents are reviewed for presence, validity, issuing body, and whether the model, ratings and configuration match the product offered. Which items apply depends on the target market and the system configuration.

Supplier statuses are illustrative.

Standard / regulation	Relevance	What we verify	A	B	C
IEC 62619 ¹	Safety of secondary lithium cells and batteries for industrial use, incl. energy storage	Test report / certificate covers the offered cell and battery model	✓	✓	!
UN38.3 ²	Transport of lithium batteries (all markets)	Test summary per para. 38.3.5; model, Wh rating and tests listed match the product	✓	!	!
CE – LVD 2014/35/EU, EMC 2014/30/EU, RoHS 2011/65/EU ³	EU market access for electrical equipment	EU Declaration of Conformity, listed directives and standards, technical file availability	✓	✓	!
EU Battery Regulation (EU) 2023/1542 ⁴	EU rules for batteries; battery passport for industrial batteries > 2 kWh from 18 Feb 2027	Labelling plan, conformity route, readiness for battery passport data	!	!	×
WEEE 2012/19/EU ⁵	EU take-back obligations for electrical and electronic equipment	Marking; who registers as producer in each EU country of sale	✓	!	!
VDE-AR-N 4105 ⁶	Germany: generation units and storage operated in parallel with the low-voltage grid	Unit and NA-protection certificates for the storage/inverter combination offered	!	×	×
UL 9540 / UL 1973 ⁷	US: ESS system-level safety / battery-level standard	Listing for the complete system (UL 9540) vs. battery only (UL 1973)	!	×	×
UL 9540A ⁸	US: test method for thermal-runaway fire propagation (not a certification)	Report level (cell / module / unit / installation) and edition used	!	×	×

Typical document mismatches we look for

- A certificate issued for a different model, capacity or cell supplier than the one quoted
- A battery-only listing (e.g. UL 1973) presented as a complete-system listing (UL 9540)⁷
- Grid-connection certificates that cover a different inverter than the one in the offered bundle
- Test reports from a lab that cannot be verified, or expired / superseded documents

5 Risk flags

Supplier	Severity	Flag (illustrative)	Proposed action
Supplier A	Medium	VDE-AR-N 4105 certificate covers an inverter model not included in the offered bundle	Request certificate for the offered combination, or adjust bundle
Supplier A	Low	Ageing records not linked to serial numbers	Request record linkage for the first order
Supplier B	High	UN38.3 test summary lists a different model number and Wh rating	Obtain matching test summary before shipment planning
Supplier B	Medium	Cell datasheet and incoming inspection records not yet provided	Request documents; recheck traceability
Supplier C	High	Manufacturing site not identified; cell source not disclosed	Identify factory and complete factory check, or remove from shortlist
All	Medium	EU battery passport readiness not yet demonstrated for EU sales from 18 Feb 2027 ⁴	Agree data responsibilities between supplier and importer

6 Recommendation (illustrative)

Supplier A – shortlist leader. Suggested next step: a sample or small first order once the VDE-AR-N 4105 certificate for the offered combination is provided.

Supplier B – keep as alternate, subject to a matching UN38.3 test summary and cell documentation.

Supplier C – not recommended at this stage; re-evaluate only if the manufacturing site is identified and checked.

This recommendation is a format example based on placeholder data. A real recommendation is based on verified evidence and is a decision aid for the buyer, not a guarantee of product performance or compliance.

Sources (public)

- IEC 62619:2022, IEC Webstore – <https://webstore.iec.ch/en/publication/64073>
- UN Manual of Tests and Criteria, Rev. 8, Part III sub-section 38.3 – https://unece.org/sites/default/files/2024-09/ST_SG_AC.10.11_Rev.8e_WEB.pdf
- Directives 2014/35/EU, 2014/30/EU, 2011/65/EU, EUR-Lex – <https://eur-lex.europa.eu/eli/dir/2014/35/oj> · <https://eur-lex.europa.eu/eli/dir/2014/30/oj> · <https://eur-lex.europa.eu/eli/dir/2011/65/oj>
- Regulation (EU) 2023/1542, EUR-Lex – <https://eur-lex.europa.eu/eli/reg/2023/1542/oj/eng> ; battery passport timeline, European Commission – https://single-market-economy.ec.europa.eu/single-market/digital-product-passport/batteries_en
- Directive 2012/19/EU (WEEE), EUR-Lex – <https://eur-lex.europa.eu/eli/dir/2012/19/oj>
- VDE-AR-N 4105:2026-03, VDE FNN – <https://www.vde.com/de/fnn/themen/tar/tar-niederspannung> ; scope summary, VDE Verlag – <https://www.vde-verlag.de/normen/0100940/vde-ar-n-4105-anwendungsregel-2026-03.html>
- UL 9540 and UL 1973, UL Solutions – <https://www.ul.com/services/energy-storage-system-testing-and-certification>
- UL 9540A test method, UL Solutions – <https://www.ul.com/services/ul-9540a-test-method> ; Intertek on the 6th edition (2026) – <https://www.intertek.com/blog/2026/03-23-understanding-the-2026-update-to-ul-9540a/>

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