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# Battery Storage Project Sizing, Siting and Procurement Training Course

28 February – 4 March 2027
Muscat

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**Ref:** 2712_103554 **Date:** 28 February – 4 March 2027 **Location:** Muscat **Fees:** 6500 GBP

Battery Storage Project Sizing, Siting and Procurement is a 1-week training course for power project developers, utility planners and electrical engineers who leave with a storage project definition pack. As networks absorb more variable generation, the quality of early storage decisions now sets the cost, safety and usefulness of each installation for its whole life. Jupiter Prime Training delivers this Battery Storage Project Sizing, Siting and Procurement course.

## Why Battery Storage Project Sizing, Siting and Procurement Matters Now

Three forces shape storage projects today. More solar and wind generation creates needs for firming, peak shaving and frequency response, often from one battery. Tighter connection rules and queues make the point of connection a schedule risk. Fire authorities, insurers and neighbours examine thermal runaway hazards closely. Good sizing and siting win acceptance from lenders and communities; poor choices bring stranded capacity, redesign and contested permits.

## Who Gains Most from Battery Storage Project Sizing, Siting and Procurement

- Project developers responsible for shaping storage opportunities into investable schemes
- Network planners responsible for deciding where storage relieves constraints or defers reinforcement
- Electrical design engineers responsible for converter, transformer and connection arrangements
- Procurement and contract specialists responsible for tendering battery systems and balance of plant
- Health, safety and permitting leads responsible for fire separation and consent submissions

A project team sending its developer, planner and procurement lead together gains most.

## Battery Storage Project Sizing, Siting and Procurement Capabilities

These outcomes follow a storage scheme from first use case to signed supply contract.

- Assess which storage use cases a site can serve and how they stack — investment committee
- Calculate power rating, energy capacity and duration from load and price profiles — design basis approval
- Weigh candidate sites against connection capacity, land, access and hazard separation — site selection board
- Specify degradation, augmentation and availability requirements for a battery supply tender — procurement team
- Design a fire separation and emergency response concept with local responders in mind — permitting authorities
- Build a commissioning and performance test sequence tied to contract acceptance — owner and supplier

## Key Battery Storage Project Sizing, Siting and Procurement Terms

- Energy-to-power ratio — stored energy divided by rated power, setting discharge hours at full output.
- Usable capacity — the energy deliverable within the permitted state-of-charge window, below nameplate.
- Augmentation — adding modules over the project life to offset capacity fade.
- Revenue stacking — earning from several services, such as arbitrage and frequency response, from one installation.
- Thermal runaway — a self-heating cell reaction that can spread and cause fire or gas release.
- Round-trip efficiency — the share of charged energy returned after all losses.

## Battery Storage Project Sizing, Siting and Procurement Day by Day

## Day 1: Storage Use Cases and Network Needs

- Arbitrage, Peak Shaving and Firming Use Cases — Which Service Defines the Project
- Frequency Response and Reserve Duty Cycles — Battery Stress and Warranty Exposure
- Network Constraint and Reinforcement Deferral Screening — Where Storage Beats Copper
- Co-Located Solar and Storage Configurations — Shared Connection Versus Standalone Sites
- Revenue Stacking and Service Conflict Matrix — Priority Rules Between Services

## Day 2: Sizing Capacity and Duration

- Load and Price Profile Analysis — Choosing Power Rating and Duration
- Usable Capacity and State-of-Charge Windows — Nameplate Versus Delivered Energy
- Capacity Fade and Augmentation Schedules — Lifetime Energy Commitments
- Round-Trip Efficiency and Auxiliary Load Estimates — Net Energy Yield
- Chemistry and Cell Format Comparison — Cycle Life, Safety and Footprint Trade-Offs

## Day 3: Site Selection and Grid Connection

- Site Screening Scorecard — Land, Access, Flood Risk and Neighbours
- Point of Connection and Hosting Capacity Checks — Queue Position and Cost
- Single-Line Arrangement for Converters and Step-Up Transformers — Connection Design
- Grid Connection Performance Requirements — Fault Ride-Through and Reactive Power
- Auxiliary Supply, Earthing and Cable Routing Layout — Constructability on Site

## Day 4: Safety, Separation and Procurement

- Thermal Runaway Hazard Assessment — Container Spacing and Fire Separation Distances
- Gas Detection, Ventilation and Suppression Concepts — Responder Access Plans
- Supply Contract Structures — Full Turnkey Versus Split Battery and Balance of Plant
- Technical Specification and Tender Evaluation Criteria — Supplier Comparison
- Warranty, Availability and Capacity Retention Terms — Risk Allocation

## Day 5: Practising the Storage Project Definition Pack

- Use Case and Sizing Case Study — Applying Profiles to a Real Site
- Site and Connection Option Ranking — Applying the Screening Scorecard
- Fire Separation Layout Review — Applying Hazard and Responder Findings
- Factory Acceptance, Commissioning and Capacity Test Sequence — Handover Readiness
- Storage Project Definition Pack Completion — Sponsor Sign-Off of the Scheme

## Applying Battery Storage Project Sizing, Siting and Procurement After the Course

- Run a sizing check on a live scheme, testing duration and augmentation against fresh load and price profiles.
- Lead a site screening session scoring connection capacity, separation distances and access for candidate locations.

## Battery Storage Project Sizing, Siting and Procurement Questions FAQ

### What is battery storage project sizing, siting and procurement and why does it matter now?

It is the early work that fixes what a storage scheme does, how large it is, where it connects and how it is bought. It matters now because early mistakes are expensive to reverse.

### Which roles gain most from battery storage project sizing, siting and procurement?

Project developers, network planners, electrical design engineers, procurement specialists and permitting leads gain most. You benefit most if you shape schemes before design freeze.

## How does battery storage project sizing, siting and procurement differ from a battery operation course?

It covers decisions taken before a battery is built: use cases, sizing, site choice, connection, fire separation and contracts. A battery operation and upkeep course starts after handover.

## What do you bring back from battery storage project sizing, siting and procurement?

You bring back a structured project definition covering use cases, sizing calculations, a ranked site and connection option, a fire separation concept, tender criteria and a commissioning test sequence.

## Battery Storage Project Sizing, Siting and Procurement: The Way Forward

The storage project definition pack first informs whether a scheme moves to detailed design and tender. Developers, planners and procurement leads use it to align on rating, duration, site and contract structure. After its first use, revisit the augmentation schedule and the service priority rules, since price patterns and network needs shift faster than battery hardware ages.