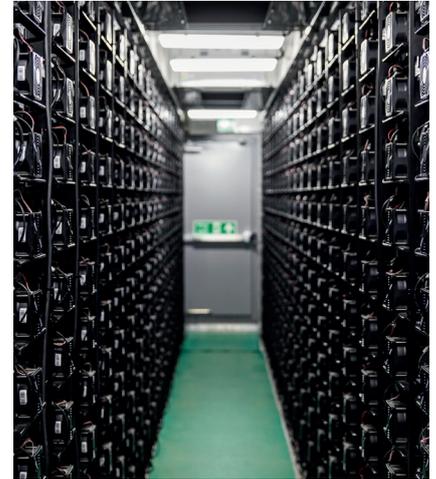


# MOBILE ENERGY STORAGE

## OVERVIEW

Utilities, independent power producers (IPPs), regional transmission organizations (RTOs) and industrial and commercial organisations can benefit from energy storage systems that are flexible, mobile and quick to deploy. A mobile energy storage system can provide much needed additional generation, peak shifting and grid support services at short notice, for short time periods or seasonally. Mobile energy storage can:

- » provide backup power to critical facilities in storm prone areas
- » meet temporary additional power generation needs for large events
- » provide energy storage services on seasonal or short term contracts
- » increase the efficiency of diesel generators
- » provide energy storage services at short notice



Generation	Transmission	Distribution
Frequency Regulation	Voltage Support	Disaster Recovery / Relief
Renewable Integration	Substation and Line Upgrade Deferral	Microgrid and Island Grid Support
Spinning Reserve	Renewable Integration	Distribution Upgrade Support
Ramp Rate Management	Loss Reduction	Peak Load Reduction
Renewable Firming	Constraint Relief	Power Quality
	Reliability and Grid Stability	Volt / VAR Support

## DEPENDABLE BATTERY TECHNOLOGY

RES' mobile energy storage solutions are based on a standardised design maximising power and capacity in the space available in a 40 foot ISO container. RES uses only certified, long-life, high-efficiency, and UL\*-listed battery cells to offer a capacity of 1000 kWh and a rated power of 500 kW in a 40 foot container.

For flexibility the mobile energy storage system is offered both trailer mounted and as a standalone container delivered by side loader. The minimum site requirements are suitable access and level ground to stand the container on.

Flexible, mobile and quick to deploy.



\*Underwriter Laboratories, a global company auditing and certifying electrical components and devices for over 100 years.

## COMMUNICATION AND CONTROL

Given the mobile energy storage system's potential use in storm prone areas, a robust network connection may not always be available. The system is therefore configured to be controlled entirely locally with the capability to act within a network of mobile energy storage systems. The system has cellular network connection as standard with satellite communication available as an additional option. The system can function reliably without a stable grid connection alongside an external generator or onsite generation.

Each system will run RESolve, RES' advanced energy response operating system platform. The application is incorporated through every level of the battery system, and its standards-based architecture allows for a least-cost procurement approach to improve asset life and reduce operating costs. RES' extensive experience with grid connected generation feeds in to RESolve to provide an array of grid support and protection management capabilities to keep the mobile energy storage system online safely for longer.

## INHERENTLY SAFE

The mobile energy storage system has been designed with robust electrical connections in a single location on the container including a single grounding connection point and a connection point for an external generator to support off-grid applications.

The minimum grounding requirement is a reference ground connection with built in short circuit protection providing safety to personnel and equipment. The mobile energy storage system is designed to the same high safety principles as all of RES' products and projects and meets or exceeds required safety standards.

## TECHNICAL DATA

<b>CELL CHEMISTRY</b>	LiFePO <sub>4</sub>	<b>NO. OF FULL CYCLES</b>	7000
<b>RATED POWER</b>	500 kW	<b>ROUND TRIP EFFICIENCY (AC TO AC)</b>	89%
<b>RATED CAPACITY</b>	1000 kWh	<b>TEMPERATURE RANGE</b>	-18°C to +40°C
<b>AC OUTPUT VOLTAGE / FREQUENCY</b>	480V* / 60 Hz or 400V / 50Hz	<b>WARRANTY</b>	10 years

\*Where a higher voltage is required and a transformer is not available on site a mobile transformer and associated switchgear can be provided.

Experience gained from our 300 MW energy storage portfolio enables us to provide reliable energy storage solutions.



Safe, rapid and reliable assets that come with full warranties and can concurrently provide multiple energy services to customers.

RES is the world's largest independent renewable energy company active in onshore and offshore wind, solar, energy storage and transmission and distribution. At the forefront of the industry for over 35 years, RES has delivered more than 16 GW of renewable energy projects across the globe and supports an operational asset portfolio of 5 GW worldwide for a large client base. Understanding the unique needs of corporate clients, RES has secured 1 GW of power purchase agreements (PPAs) enabling access to energy at the lowest cost.



### LEARN HOW ENERGY STORAGE CAN BENEFIT YOUR SYSTEM

+44 (0) 1923 299 200   info@res-group.com   www.res-group.com  
Global HQ - Beaufort Court, Egg Farm Lane, Kings Langley, Hertfordshire, WD4 8LR, UK