

# Zenergize

ENERGY STORAGE SYSTEMS



Your clean, quiet, efficient  
and reliable energy source

# ZenergiZe takes modular energy storage to a new level

*Rand-Air is trusted by mining and industry across South Africa and Sub-Saharan Africa as a professional, reliable and responsible hire partner, a proud reputation that we have built over 49 years of experience in the specialised rental space.*



We are continuously looking at developing cleaner and more cost-effective renewable energy sources in order to assist customers and end-users in sustainably achieving lowest possible Operational Expenditure (OPEX) and Total Cost of Ownership (TCO).

We now offer the new ZenergiZe range of medium and large battery energy storage units as part of our hire fleet.


These highly efficient modular energy storage units deliver a clean, reliable, and efficient short-term solution where there is no access to grid power, where grid power is intermittent or where there are low load challenges. Whilst the ZenergiZe cannot replace grid power completely, the units offer a simpler way to capture and store

renewable energy for immediate or later use, ready for delivery at any given time.


Developed and designed with sustainability in mind, the ZenergiZe range features a trio of low, delivering both economic and environmental benefits. Using low fuel and emitting low CO<sup>2</sup>, the units assist operators to significantly reduce their fuel consumption as well as their carbon emissions. With low noise levels, the virtually maintenance-free system is the answer for noise-sensitive environments.

At the heart of these powerful and compact units are high-density lithium-ion batteries which are capable of providing over 12 hours of power after a single 1.5 hour charge, dependent on load.

 **FAST RECHARGE**

**70% MORE COMPACT & LIGHTER IN WEIGHT** 

**40.000 Hrs LIFESPAN** 

**HYBRID AND SUITABLE TO RENEWABLES** 

PARALLEL CAPABILITY  
  
**UP TO 30 UNITS**

**INCREASE PRODUCTIVITY TO OVER 50%** 



# The perfect solution to meet your needs

*The ZenergiZe range perfectly fits with applications that require a continuous and demanding flow of electrical power energy. This sustainable solution meets a wide range of applications:*



Power plants



Events



Telecommunications



Construction sites



Motors



Recharging points



Renewables

The ZenergiZe can be used in combination with a generator - we offer 30kVA to 1000kVA diesel generators as part of our rental offering. The storage systems also have the ability to manage energy generated from intermittent renewable energy sources, delivering a hybrid power solution for construction sites.

The ZenergiZe can also be synchronised with other energy storage systems. This allows the machine to become the storage of all the energy sources connected to the micro-grid, an independent power network that uses local, distributed energy resources to provide grid backup or off-grid power to meet local electricity needs.

Micro-grids can also be created to provide energy for applications such as residential, commercial, industrial or public services. The ZenergiZe range perfectly fits with applications that require a continuous and demanding flow of electrical power energy. It is ideal for proper sizing of cranes and other electric motors, for electrical car recharging points, and for other stationary applications e.g. hospitals.

With low noise levels, the ZenergiZe is the perfect rental answer for noise-sensitive environments such as metropolitan construction sites, medical centres, events, remote telecom applications, etc.



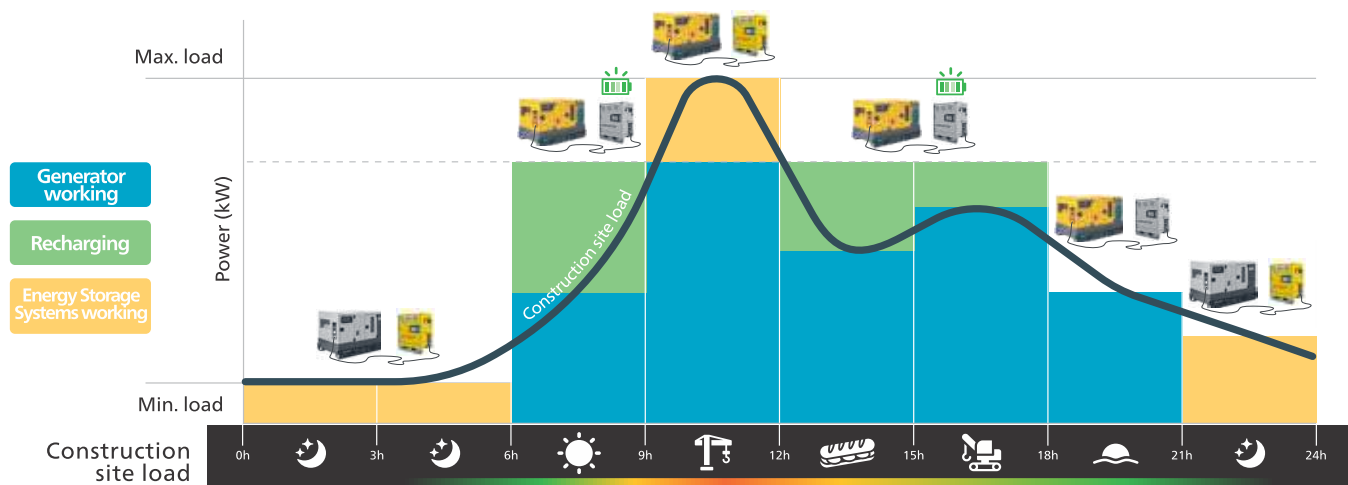
Solar panels not included.

# HYBRID MODE

A smart solution

In HYBRID mode, the ZenergiZe energy storage systems can be used together with any diesel generator to enable smart load management. With the benefit of low-noise emissions, the HYBRID solution is ideal for use in a range of demanding and noise-sensitive applications, such as for example, any construction site where low loads or peaks can become a problem for a generator.

## 24 Hours at a construction site



## HYBRID SYSTEM

The units are easy to connect to a generator thanks to a wide selection of socket options. Additionally, by paralleling ZenergiZe units with smart management controllers, enables operators to increase the power offer according to the demand.



**200** tons CO<sub>2</sub>



**900** trees



**70** cars off the road



**100 000** m<sup>3</sup> of waste

\*per unit during its life cycle, working in a HYBRID solution



## VERSATILITY

The ZenergiZe energy storage systems enable versatile smart load management. The units help the generator to reach the peaks of power, optimising its performance, extending its lifespan up to 15% and decreasing general maintenance and overhaul by 50%. This means that a 40% smaller generator can be used.



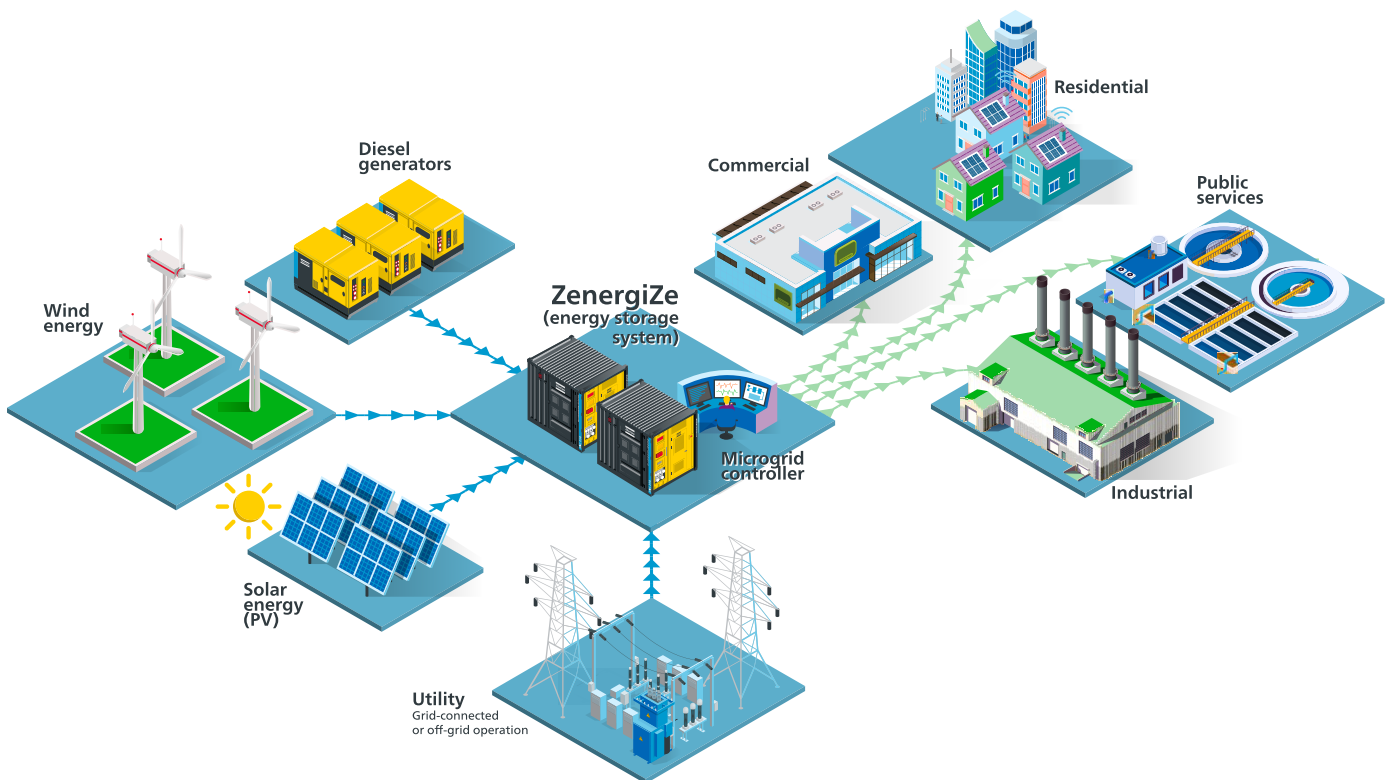
## ENVIRONMENTALLY FRIENDLY

In HYBRID mode, users can reduce daily fuel consumption by up to 80%, saving more than 200 tons of CO<sub>2</sub> during the unit's operating life.

# MICRO-GRIDS

*Providing energy for a sustainable green future*

*ZenergiZe becomes a key piece of micro-grid. The energy storage systems will greatly assist users in benefitting from renewable energy, which is an unpredictable but most sustainable energy source. When used in combination with generators, the ZenergiZe will become a total decentralised solution that will support the grid if needed, thanks to the paralleling system of these machines.*




PARALLEL CAPABILITY




UP TO 30 UNITS

PLUG & POWER



HYBRID AND SUITABLE TO RENEWABLES



# ISLAND MODE

*One solution, multiple options*

*The ISLAND mode enables our energy storage systems to be used as a stand-alone power solution. The low-noise ZenergiZe is ideal for use in noise sensitive environments and to resolve low load challenges.*



## QUIET TECHNOLOGY

ZenergiZe units operate silently, delivering low-noise emissions, thereby contributing to a quiet and safer working environment. They are the perfect rental answer for noise-sensitive applications, allowing for up to a 50% increase in core business productivity.



## COMPACT DESIGN

The ZenergiZe is 70% more compact in contrast to traditional alternatives owing to the lithium-ion batteries which are also lighter in weight compared to other battery technologies. This, together with a modular design, facilitates transportation and installation.



## FAST CHARGING

In ISLAND mode, the machines are ready to perform in a very simple and easy way. Connect them directly to the loads and start working. However, as they need to be ready at any moment, fast charging is imperative.



## CLEAN TECHNOLOGY

When used in ISLAND mode, the CO<sup>2</sup> savings can reach up to 100% if the units are powered by renewable energy sources. The solution can be scaled to reach the needed clean energy demand with a smart paralleling system.





# ZBP-ZBE MEDIUM RANGE ENERGY STORAGE SYSTEMS

## Key Benefits



### LITHIUM-ION TECHNOLOGY

- 40 000 hour lifespan under normal operating conditions
- Overload capabilities up to 200%
- Virtually no maintenance
- Perfect match for short cycles (charge & discharge) performance
- Large usable energy range compared to other technologies
- Specifically designed to work at high & low ambient temperatures (from -15° to 50°)
- Low total cost of ownership

### THE ERA OF CONNECTIVITY

- Smart start-and-stop
- Energy Management System (EMS) with Battery Management Communication (BMS)
- Remote monitoring system & Bluetooth mobile application
- Parking mode



### A MODULAR AND PORTABLE SOLUTION

- Galvanised skid
- Integrated lifting structure with single elevation point
- Sling guides
- Compact size & light weight for easy transport
- Doors (with restraints) facilitate maintenance

### PLUG-AND-PLAY

- Easy connection for solar panels
- Earth pin
- Emergency stop
- Circuit breakers & earth leakage relay
- Plug-and-play sockets with any genset & load
- Pass-through limitation 100A

**Optional extras:** Cold weather performance  
Trailer • GPS + GSM 3G or WiFi • MPPT Smart Solar Charger

# ZBC LARGE RANGE ENERGY STORAGE SYSTEMS

## Key Benefits



### EXCELLENT PERFORMANCE

- Paralleling capability – scalable solution
- Micro-grid possibility with genset
- Photovoltaic management
- Temperature control
- Lithium-ion benefits



### PLUG-AND-PLAY

- External connections input & output for an easier hybridisation
- External main control
- Alarms & emergency button access
- Fire extinguisher system



### ENVIRONMENTALLY FRIENDLY

- Reduced noise pollution (less than 80 dB(A) at 0.5m)
- Low CO<sup>2</sup> & NO<sub>x</sub> emissions
- Clean & efficient renewable solutions



### LOWER COST OF OWNERSHIP

- Increases the lifespan of a hybrid fleet
- Reduces fuel consumption up to low
- Low maintenance
- Improvement of hybrid solution maintenance
- Proper sizing means more efficiency
- Increases productivity, avoids new emission/noise legislations

Optional extras: Paralleling controller • Connections





## Branches

### South Africa

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