

CASE STUDY

Battery Energy Storage System

*Global Leader in
Distributed
Hybrid Solutions
& Off Grid Systems*

Micro Grid Hybrid Power Plants Project

Composition of typical hybrid power plants



Battery Energy Storage System



Clean Energy



Diesel Power



Auxiliary Equipment

Sites: Qty. 4

Location: Kenya

Total Power Installation: 6MW

Each Site: Diesel Generators 2 units of 500kw & 2 units of 250kw



Diesel Generators

Each site equipped with totally 4 units of diesel generators (2 units of 500kw and 2 units of 250kw) as backup power, to coordinate with PV panels and BESS.

All sites connect with SCADA, realizing real energy management, and ensuring maximum fuel efficiency of the diesel generators while supporting the loads.

Excitation after closing, ensuring fast response of backup power during power shortages.

Battery Energy Storage Systems

Each Site: $\geq 1\text{MWh}$ BESS, 80% DOD, 6000 lifecycles.

Redundant design. DC coupled.

Functions: PQ, VF, VSG, BalckStart, Grid-forming.

SCADA

Each site can run the SCADA independently and communicate with Master system in real time. StarLink for communication backup.

Realtime data and remote control. Weather forecasting for emergency response.

Smart maintenance management with alarms and records. 10-years data tracking. Reports can be generated to support on-site spare parts management,

PV Panels

Each Site: $> 1\text{MWc}$ PV power



Self-consumption and Rental

Location: Netherlands

Products: 1*HBD-100-200 R series(For rental) & 1*HBD-250-400 A series(Self-consumption)

Total: 350kW-600kWh



HBD-250-400 A series:

Off-grid:

Reducing power of diesel generator, reducing carbon emissions, extending life of diesel gensets

On-grid:

1)Solving the problems of seasonal or periodic overload power consumption, inefficient enterprise transformer capacity
2)Rapid discharge of energy storage system, relieving power supply pressure, saving investment costs for capacity expansion, reducing renovation cycle, avoiding power outages and retrofits

Microgrid:

Wind, solar, diesel and storage microgrid system, stable off-grid power supply

Peak-valley arbitrage:

Improving renewable energy utilization, shortening payback cycle

HBD-100-200 R series:

Expert For Rental

Best partner of gensets,Your off-grid energy pilot

Appearance:

Solid structure, great durability
Anti-theft protections
Anti-collision, windproof, anti-corrosion
Highly mobile



Italy Self-consumption

Location: Italy

Products: 1*HBD-50-100 A series

Total: 50kW-100kWh



High integration: Battery, BMS, PCS, Fire protection system, Safety and other energy storage system integrated design, users immediately installed and ready-to-use.

Quick plug connector: Off-grid HBD products connect with external loads, photovoltaic systems and generator sets through quick plug connector, easy to operate.

VSG Droop: Realize parallel operation and loading of HBD with generator sets, and load distribution can be adjusted through droop characteristics.

Flexible in parallel:

Multiple HBD units can be connected in parallel to provide larger battery capacity.

Australia Rental

Location: Australia

Products: 1*HBD-30-60 R series

Total: 30kW-60kWh



Convenience :

Its compact size and modular design allow for easy installation and integration into existing equipment.

Smart energy management:

The system's intuitive interface and smart monitoring capabilities enable seamless operation and efficient management of power supply.

Italy Rental

Location: Italy

Products: 1*HBD-30-60 R series & 1*HBD-50-100 R series

Total: 80kW-160kWh



Remote operation and maintenance:

With MPMC MORE POWER CLOUD monitoring, you can remotely operate and maintain your HBD R Series. This feature enables real-time monitoring, ensuring optimal performance and minimizing downtime.

Environmentally friendly:

By extending the lifespan of diesel gensets by three times and saving up to 75% on fuel consumption, the HBD R Series helps you reduce costs and minimize environmental impact.

New Zealand Rental

Location: New Zealand

Products: 1*HBD-30-60 R series & 1*HBD-50-100 R series

Total: 80kW-160kWh



HV system with high efficiency:

Up to 4C fast charging and discharging (fully charged in 15min-2h)

Easy for maintenance:

lowering operation & maintenance cost by 50%

Hungary Rental

Location: Hungary

Products: 1*HBD-30-60 R series

Total: 30kW-60kWh



Solid structure:

Anti-collision, windproof, and anti-corrosion, this system is built to withstand the rigors of rental applications

Designed for transport:

the HBD R Series features a single lifting point, forklift holes, and drag holes, making it easy to handle and transport. Its stackable design allows for efficient storage and space utilization.

Australia Rental

Location: Australia

Products: 2*HBD-30-60 R series & 2*HBD-250-400 R series

Total: 560kW-920kWh



Equipped with a high-efficiency HV system :

HBD R Series offers up to 4C fast charging and discharging. This means that the system can be fully charged in as little as 15 minutes to 2 hours, minimizing downtime and maximizing efficiency.

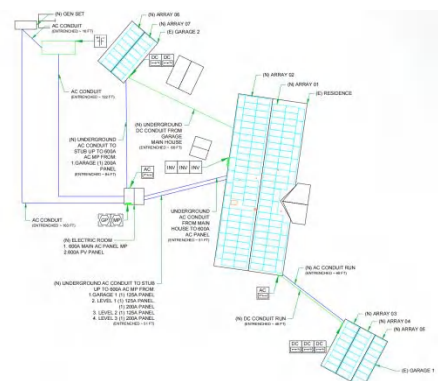
Off-Grid Power Plants Project

Location: America

Products: 1*HBD-100-516 A series, 125kW Gas Generators, 90kW PV power PV Panels.

Total: 315kW

The integration of a 125kW gas generator set, a 90kW photovoltaic system, and the HBD-100-516 battery energy storage system has formed an off-grid solar-battery-gas hybrid project, aiming to provide a reliable and efficient energy solution.



Chile Rental

Location: Chile

Products: 7*HBD-30-60 A series, 3*HBD-50-100 A series
4*HBD-100-200 A series, 1*HBD-250-400 A series

Total: 1010kW-1920kWh



Remote monitoring:

Smart cloud platform on PC/ Mobile APP, real-time monitoring, unattended, automatic warning, storing data for benefit analysis

Parallel for multiple units

Flexible expansion, no limit for the number of parallel connection in the on-grid mode, 6 units max in the off-grid mode

Life cycle:

Long battery life - 6000 cycles

Communication:

Integrating RS485、Ethernet、 EtherCAT、 CAN communication ports

Maintenance:

Easy to maintain, equipped with SCADA, remote monitoring, diagnosing and upgrad



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