

# Blue Sun Energy

IN PARTNERSHIP WITH BRIDGING  
TECHNOLOGY SOLUTIONS (PTY) LTD  
(TA FREEPOWER)



# Your Trusted Partner in Sustainable Power



Blue Sun Energy Solutions has 15+ years of experience delivering scalable solar hybrid systems across Southern Africa — reducing grid purchased power costs and power security to businesses of all sizes.

## 15+ Years

### INDUSTRY EXPERIENCE

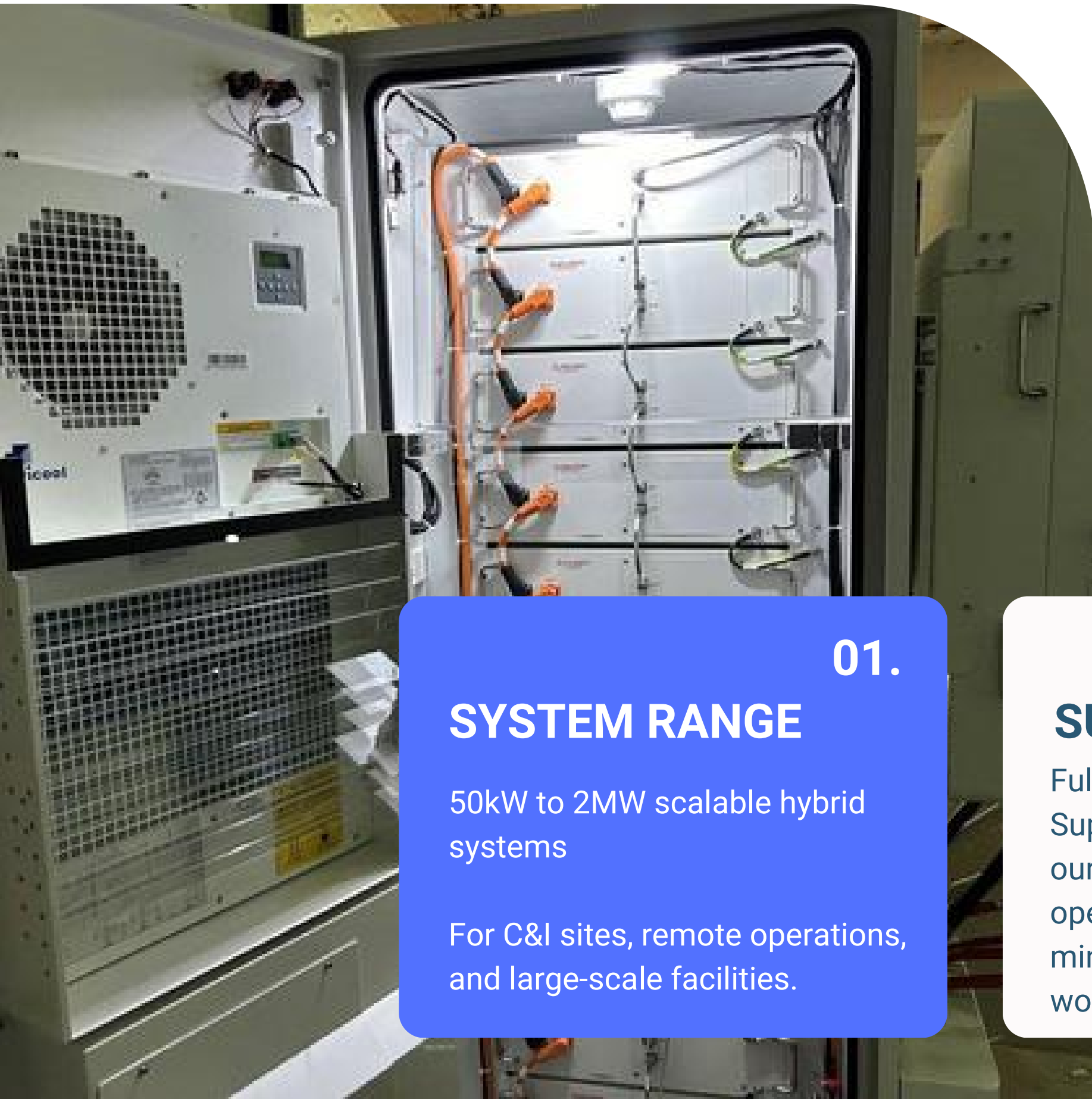
We've built solar hybrid systems for corporations, lodges, government departments, and municipalities since 2009.

## 1200+ Sites

### MANAGED SOLAR HYBRID LOCATIONS

From remote off-grid installations to large commercial projects, we support energy operations across Southern Africa.





# Reliable, Scalable, Smart Energy Solutions

We offer flexible, high-efficiency systems built with top-tier battery and inverter tech—engineered to meet the demands of Southern Africa’s energy landscape.

01.

## SYSTEM RANGE

50kW to 2MW scalable hybrid systems

For C&I sites, remote operations, and large-scale facilities.

02.

## SUPPLIER SUPPORT

Full Range of Local Technical Support and warranties for all our products installed. Ensuring operations disruptions are minimized and your capital is working for you

03.

## ENERGY CONTROL

From Solar Power Performance to Battery management, all our systems are under permanent monitoring  
Our Apex EMS seamlessly manages solar, grid, BESS & generator input/output.

# Complete Hybrid Power Solutions – Built to Scale

From 50kW to 2MW, our solar hybrid systems are tailored for commercial and industrial applications, remote operations, and large-scale facilities. Flexible, efficient, and future-ready.

## MID-SIZED SYSTEMS








### *USING DEYE 50KW INVERTER SYSTEM*

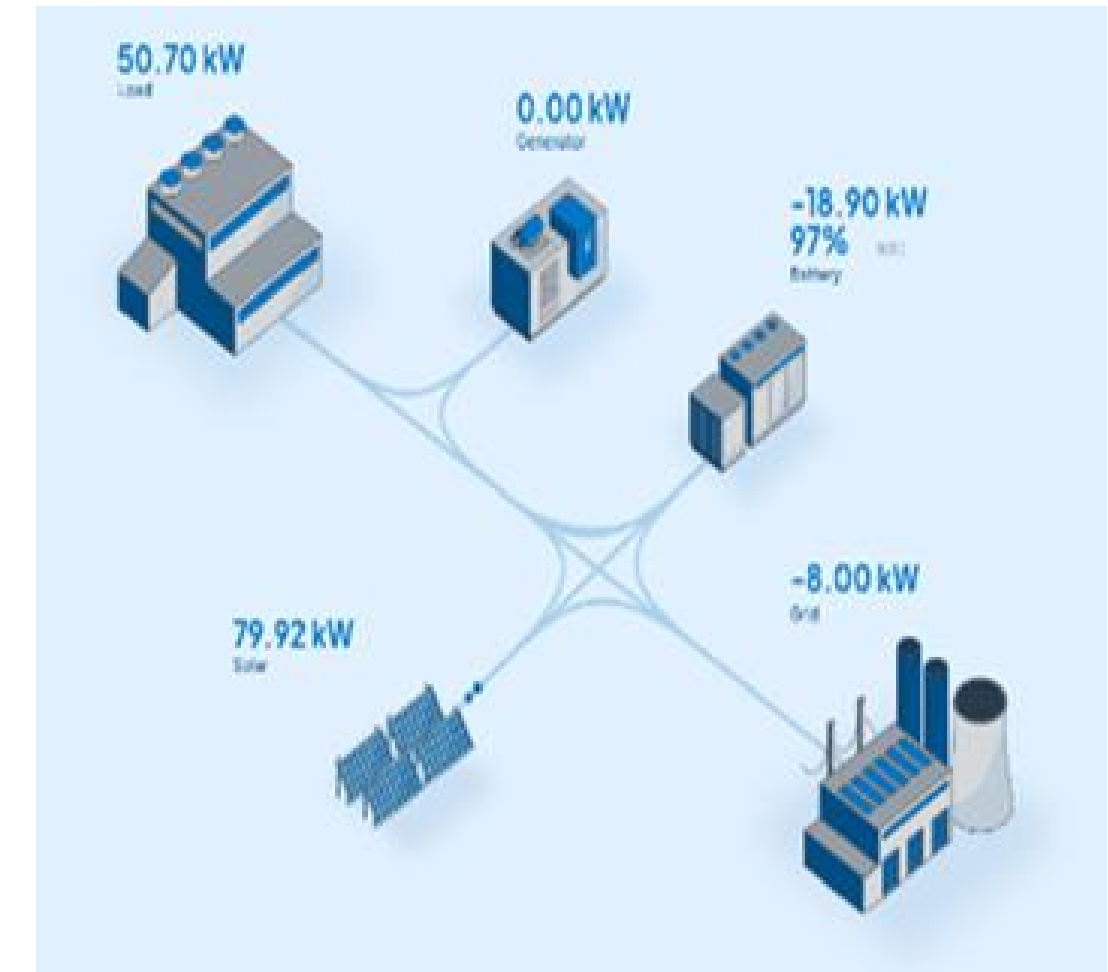
- Power Range: 50kW–300kW
- Battery: Sunwoda ESS60 (370kWh) or Oasis Flex (up to 430kWh)
- Max Configuration: 6 x ESS60 units
- Ideal for: factories, Lodges off-grid setups

## WHO IT'S FOR

- Medium-scale factories and workshops
- Agricultural facilities and farms
- Health clinics and rural hospitals
- Remote lodges and eco-tourism sites
- Mining support operations
- Educational campuses in off-grid areas




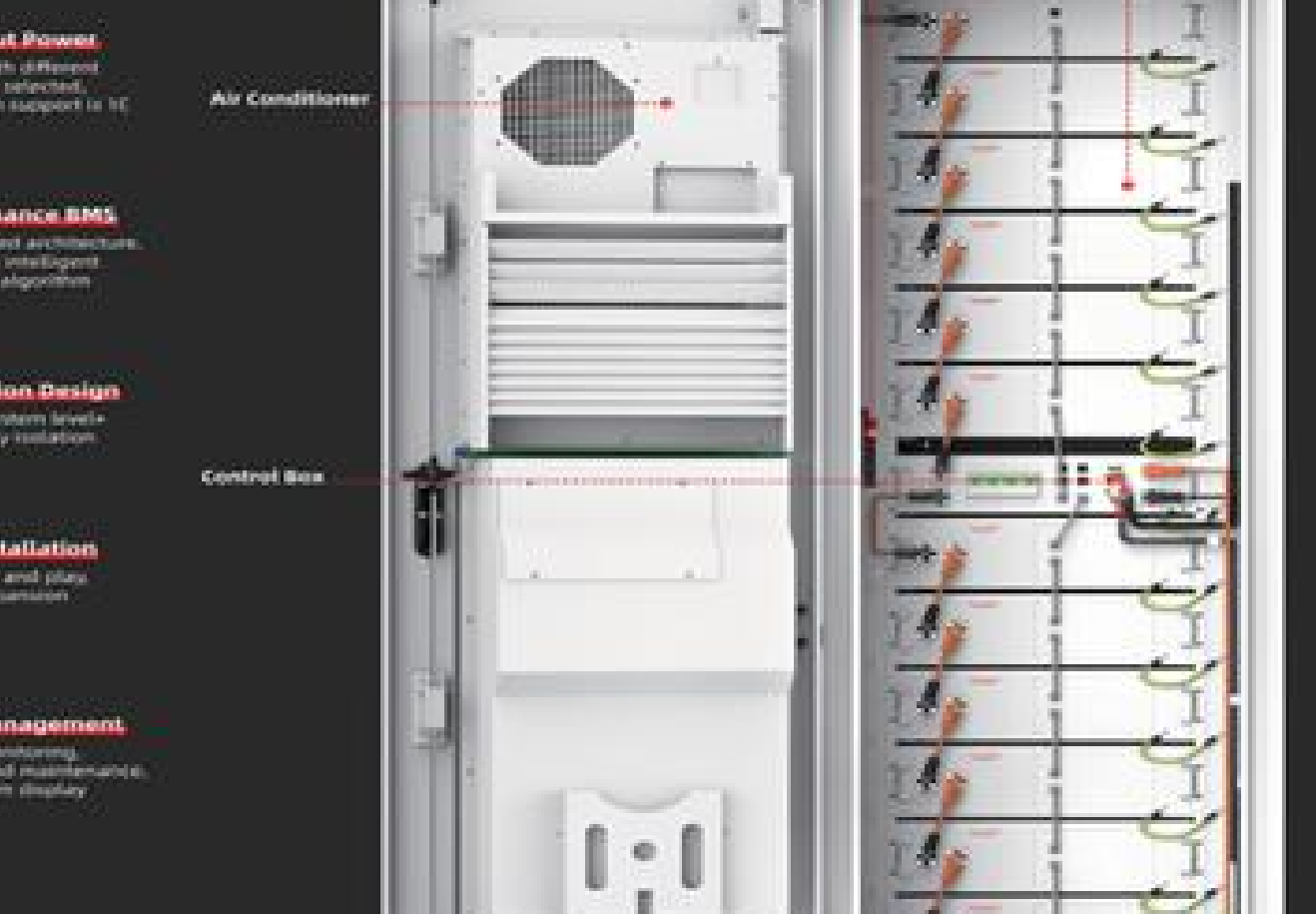
-  100% unbalanced output, each phase
-  AC couple to retrofit existing solar system
-  10 Max. 10 pcs parallel for on-grid and off-grid operation; Support multiple batteries parallel
-  100 Max. charging/discharging current of 100A
-  H High voltage battery, higher efficiency
-  6 6 time periods for battery charging/discharging
-  Support storing energy from diesel generator



## OASIS 60

| HV 60 kWh





**Multi-Output Power**  
The inverter with different power can be selected, and the maximum support is 1C

**High-Performance BMS**  
Multi-level distributed architecture, mutual network intelligent SOC and SOH algorithm

**Multi-protection Design**  
Cluster level-system level-partition safety isolation

**Flexible Installation**  
Modular, plug and play, parallel expansion

**Intelligent Management**  
Real-time monitoring, remote operation and maintenance, multi-platform display

**Highlights**  
**0.2C-1C**  
The inverter with different power can be selected, and the maximum support is 1C


**100%DOD**  
Discharge depth up to 100%, maximize economy

**< 0.6m<sup>3</sup>**  
A single cabinet covers an area of less than 0.6m<sup>3</sup>

**6000 cycles**  
long life cells are selected

**60-360kWh**  
Supports parallel capacity expansion, DC container is not needed

**Remote Operation and Maintenance**  
Support cloud operation and maintenance, support with network cable and other communication methods



SUNWODA ENERGY TECHNOLOGY CO., LTD.  
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Website: www.sunwodaenergy.com

# APEX

## Microgrid Controller

The APEX MCS G2 Microgrid family of controllers are designed for use in demanding on and offgrid power management applications. They are designed to manage and control the elements of a microgrid according to the site requirements, grid rules and available power sources. They can move between modes while in operation - optimized for backup today, PV self consumption tomorrow and tariff arbitrage after that.



These high-capacity systems are built for ensuring continuous operations, energy arbitrage, TOU peak demand savings and increased solar consumption — with intelligent control, robust design, and expandable architecture.

## **LARGE-SCALE SYSTEMS**

### *MEGAREVO PCS SYSTEM*

- Power Range: 500kW–2MW
- Inverter: 250kW Megarevo PCS + Sungrow Grid Tie Inverters
- Battery: ESS60 (370kWh), Oasis Flex (430kWh), or 215kWh water-cooled cabinets (coming soon)
- Max Configuration: 4 x Megarevo PCS with Grid Tie
- Installation: Indoor/outdoor, IP65-rated, server rack or containerized
- High-voltage and fully scalable for mission-critical applications

## **WHO IT'S FOR**

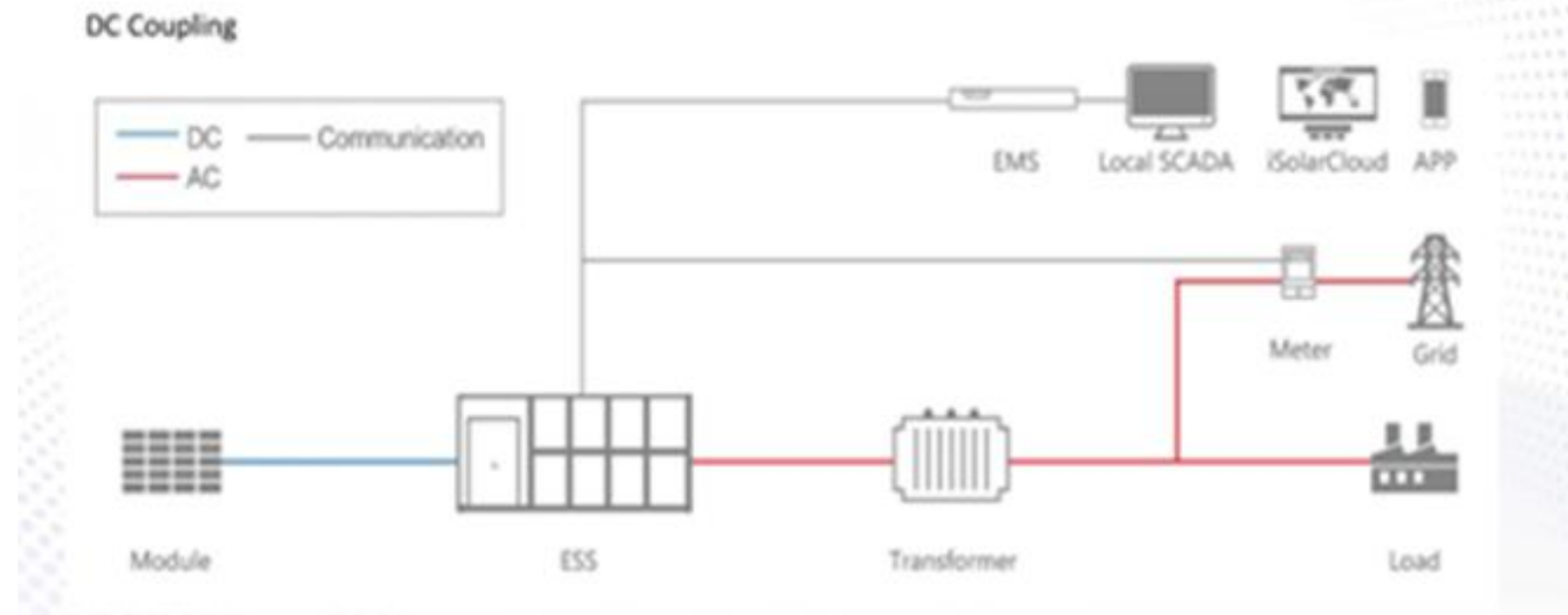
- Manufacturing plants & processing facilities
- TOU Power Tariff Users
- Power Factor Correction
- Industrial parks & warehouses
- Large-scale farms or agro-industrial operations
- Municipal infrastructure (e.g. water treatment, civic buildings)
- Data Centers and IT Hubs
- Mission-critical remote operations (e.g. mining, telecoms)



**SG110CX Premium**  
Multi-MPPT String Inverter for 1000 Vdc System



## C&I ESS Applications



**SUNWODA ENERGY**

### Multi-Output Power

The inverter with different power can be selected, and the maximum support is 1C.

### High Performance BMS

Multi-level distributed architecture, neural network intelligent SOC and SOH algorithm.

### Multi-protection Design

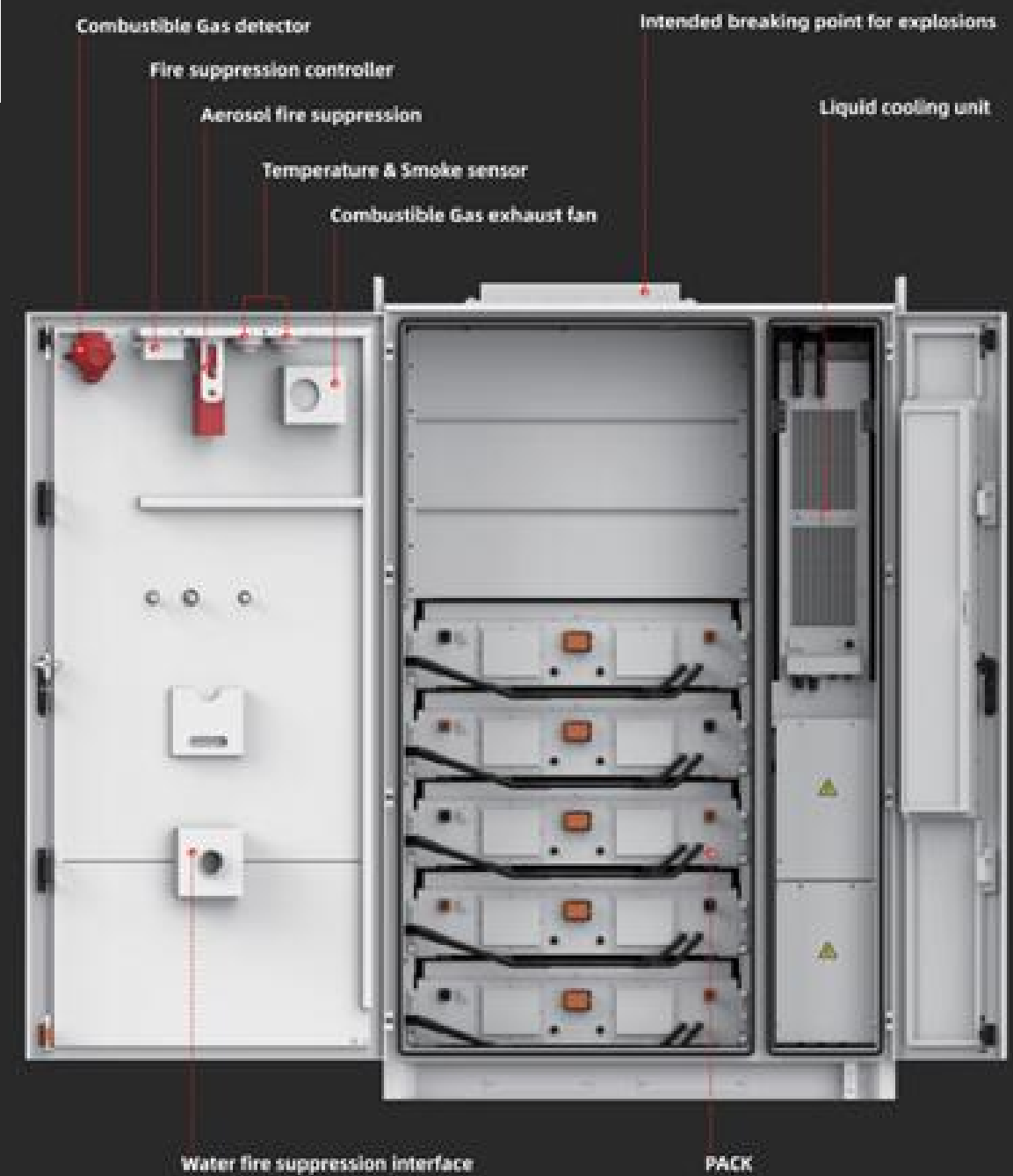
Cluster level + system level + active explosion venting + exhaust system + combustible gas detection + water fire interface + partition safety isolation.

### Flexible Installation

Modular plug and play, parallel expansion.

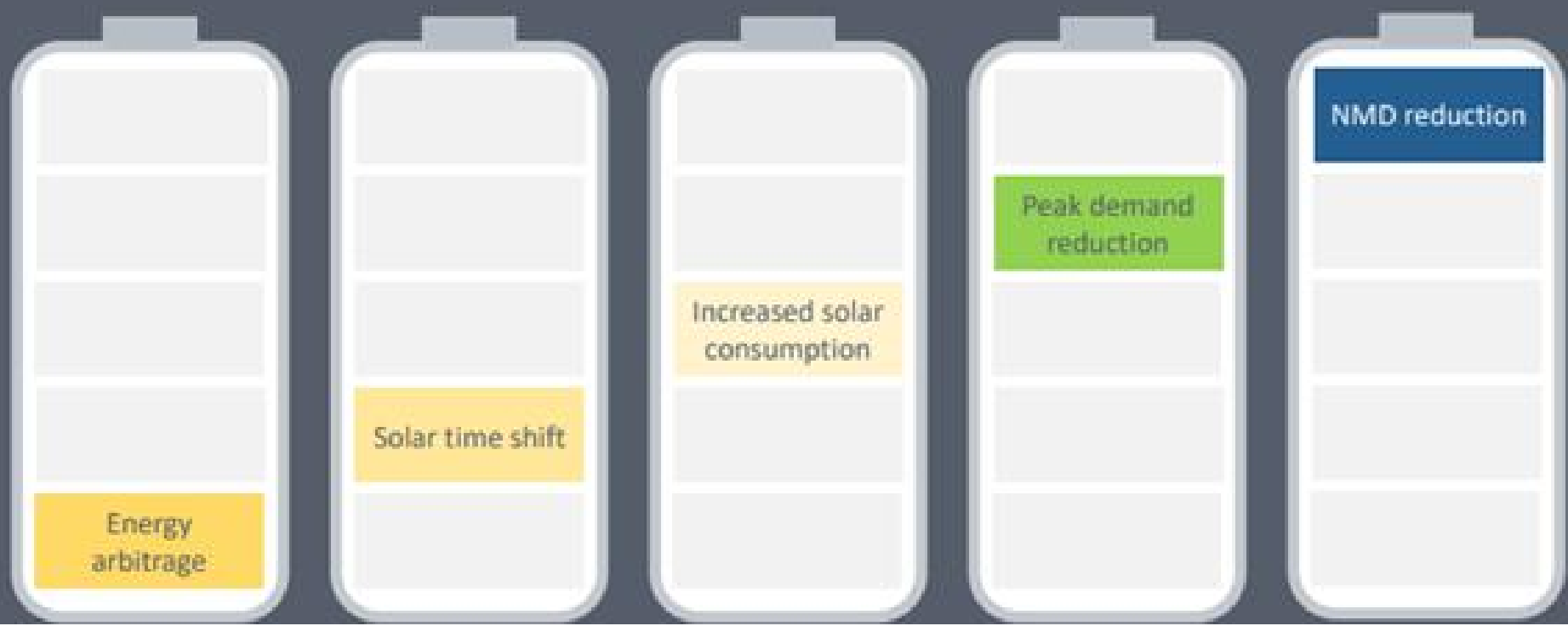
### High Level of Protection

Sealed liquid cooling system, Pack-level IP65, cabinet level CA anti-corrosion grade, strong environmental adaptability.



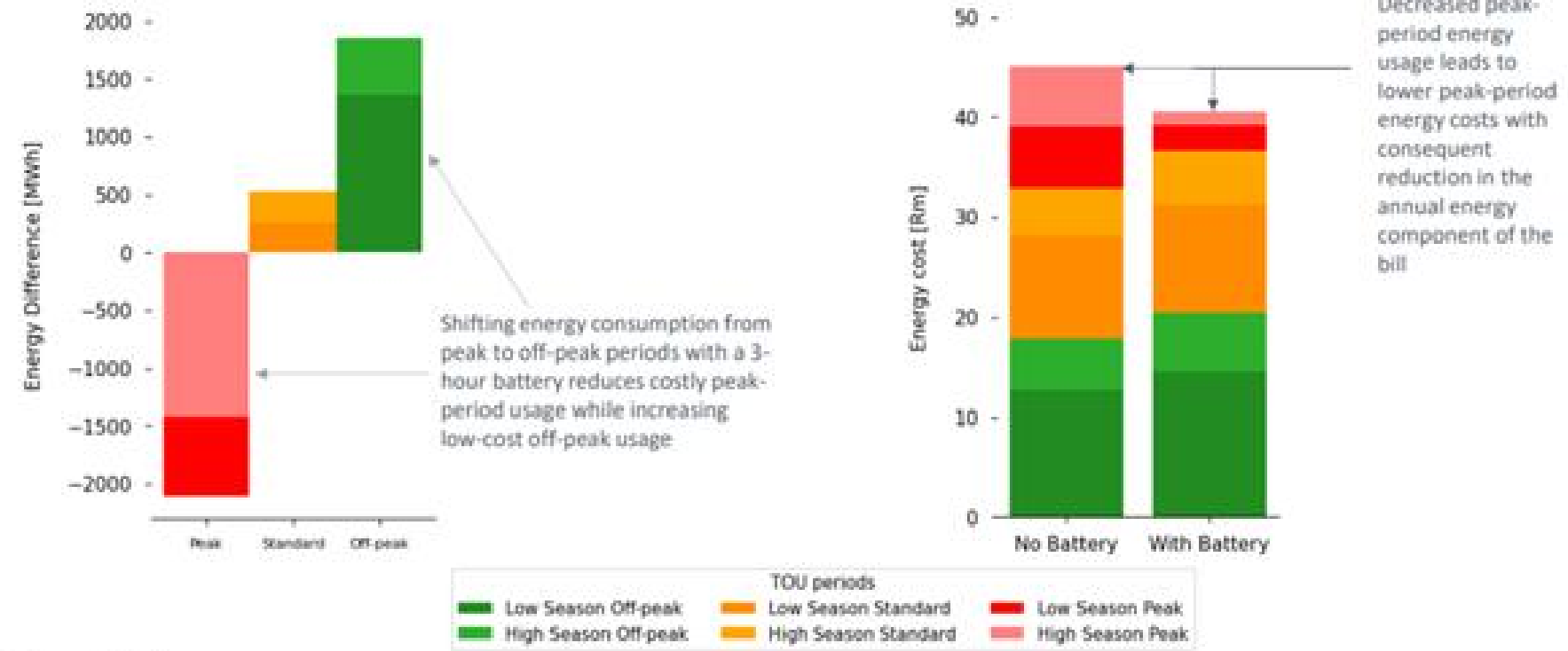


# The mechanisms by which batteries create value

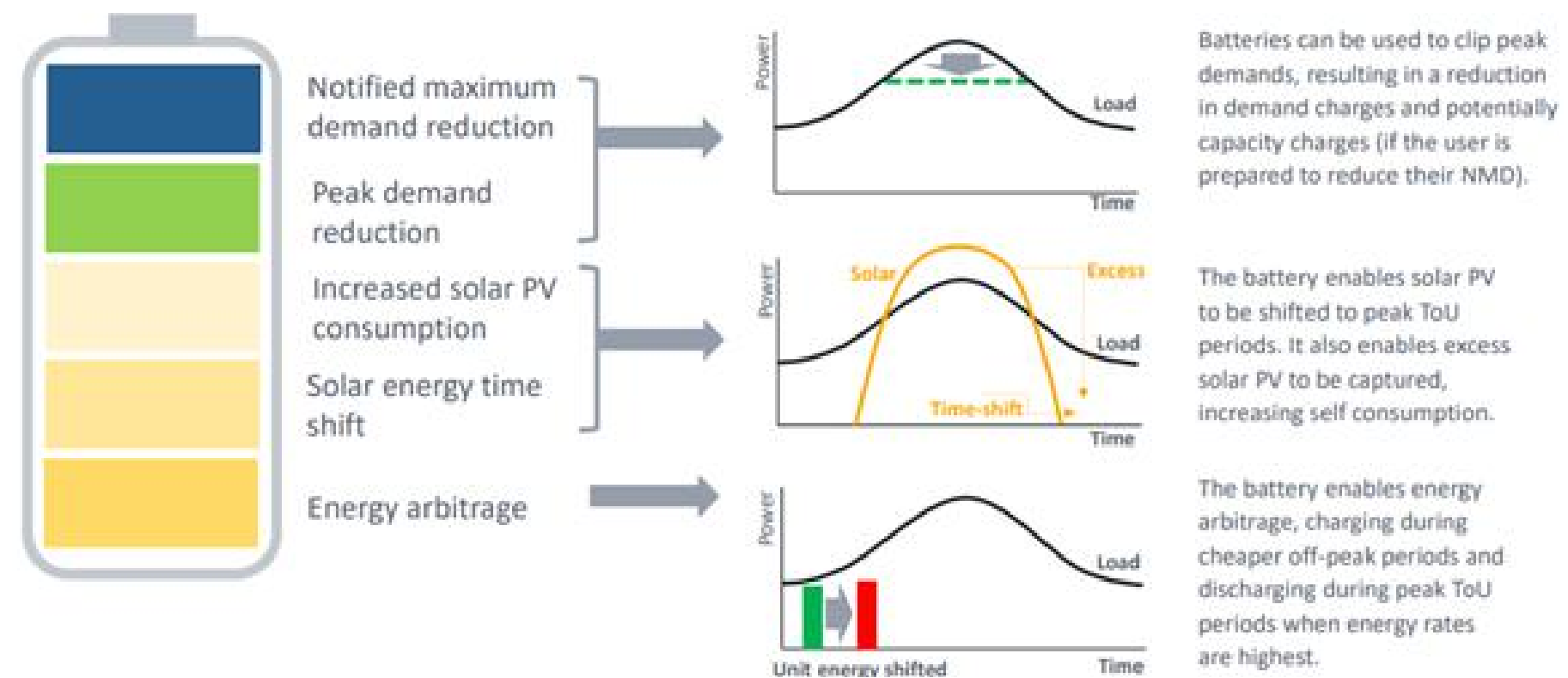


# ENERGY COST SAVINGS THROUGH TIME-OF-USE ARBITRAGE

OVER THE YEAR, THE CHANGE IN GRID-CONSUMPTION TIMING GENERATES SIGNIFICANT SAVINGS

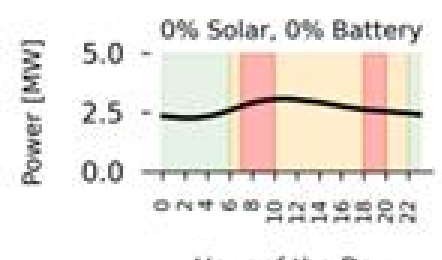


# VALUE STREAMS: REDUCING GRID-PURCHASED POWER COSTS

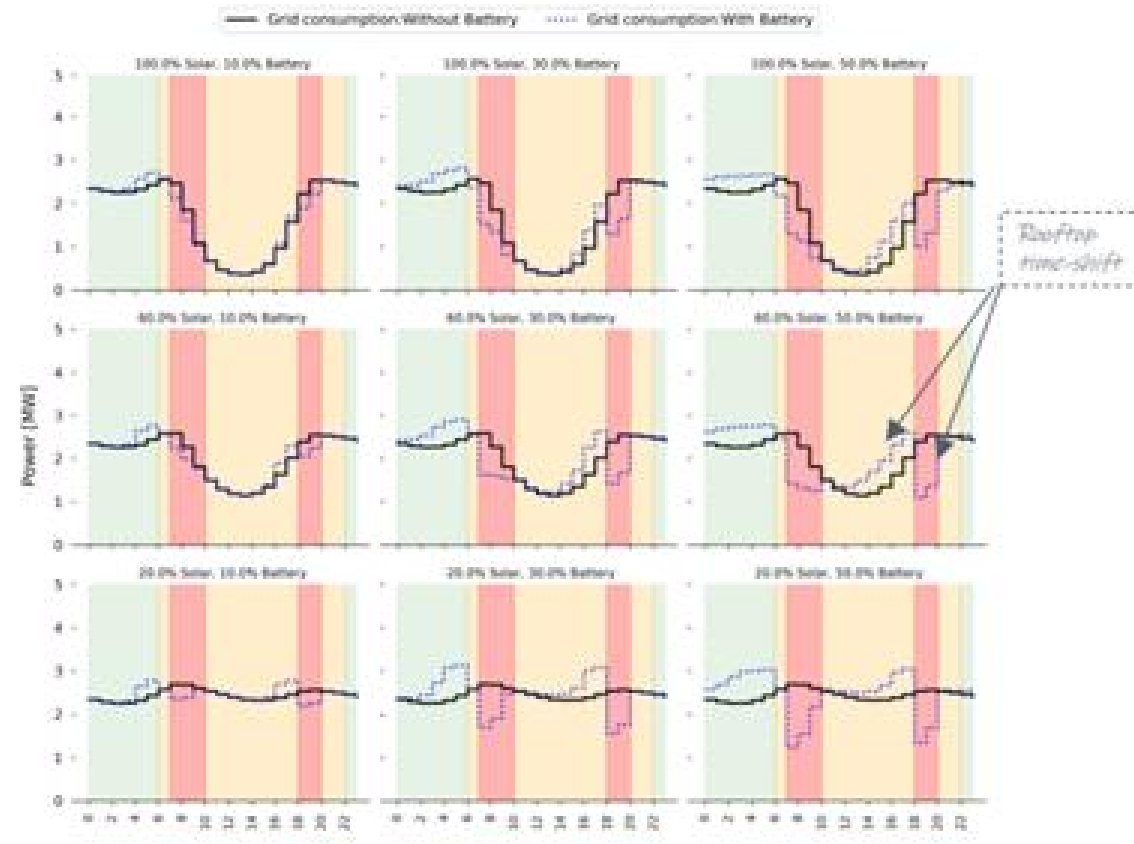


# BATTERY WORKS IN CONCERT WITH SOLAR PV

Increasing battery capacity reduces grid energy consumed during morning and evening peak pricing periods, while higher solar penetration decreases mid-day (standard period) grid reliance



Increasing solar capacity as percentage of peak demand







# Services

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**CUSTOM SOLAR HYBRID DESIGN  
(50KW -2MW)**

**SCALABLE ENERGY SOLUTIONS**

**ENERGY AUDITS & CONSULTATIONS**

**SOLAR FINANCE OFFERINGS**

**ONGOING SITE MONITORING &  
MAINTENANCE**



# Projects

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**1200+ SOLAR HYBRID SITES ACROSS  
SOUTHERN AFRICA**

**CORPORATE + OFF-GRID APPLICATIONS**

**HIGH-VOLTAGE BESS INSTALLATIONS**

**GOVERNMENT & COMMERCIAL CLIENTS**



# Gallery Slide



## COMPACT AND SAFE

With built in fire suppression,  
HVAC and Battery Monitoring



## BUILT TO PERFORM

Installed by our professional team  
and all systems under remote  
monitoring



# Why Choose Us?

- Free consultations & site assessments
- Full turnkey system design & support
- Scalable solar hybrid solutions (50kW–2MW)
- Solar Financing Available
- Long-term technical partnership & monitoring





# Let's Build Your Energy Future.



Partner with Blue Sun Energy Solutions for scalable, reliable hybrid systems tailored to your power needs. From remote lodges to large-scale industrial operations — we deliver energy cost savings and security , built to last.

## Contact Us

**SERVING CLIENTS ACROSS  
SOUTHERN AFRICA**

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