

*Bringing  
Green Power to Life*



## SOLARCUBE 20K/50K OFF-GRID SYSTEM FOR COMMUNITY

Integrated solution for power independency



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# Bringing Green Power to World



Earth at Night

## A Long Way To Rural Electrification

The International Energy Agency IEA estimates that, 1.5 billion people (22% of the human population) had no access to electricity in 2009; Approx. 2 billion people have no access to clean water, 85% of those live in rural areas.

Electrical energy is a precondition for economic growth. Health, education, and clean drinking water all depend on electric power. It is mandatory to create development and to confront increasing poverty.

# INTRODUCTION

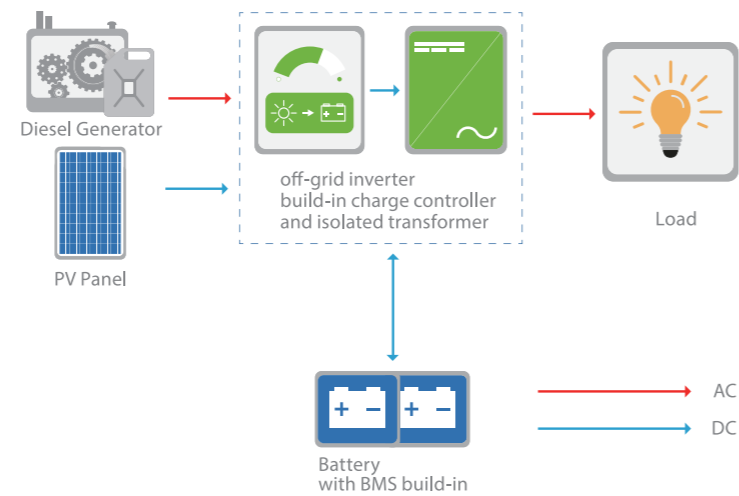
Suitable for relatively small population areas with no power supply, weak power supply. By combining Photovoltaics (PV) and Diesel Generator (DG), it utilize affordable and green energy from PV source, while still getting reliable energy supply from DG source in extreme conditions like continuous rainy days. PV&DG hybrid systems is well balanced between CAPEX and OPEX, it offers a productively solution for rural electrification.

## Features:

- Pre-assembled and tested, fast deployment
- Standard ISO container, universal transport
- Contained and integrated from a single source, with proven technology
- Modular design made expansion possible later
- Designed to withstand rugged environment

## Benefits:

- Reliable grid-quality power supply, worldwide
- Ideal for local economic development and growth
- Less noise and pollution from DG, combating climate change
- Well balanced CAPEX and OPEX



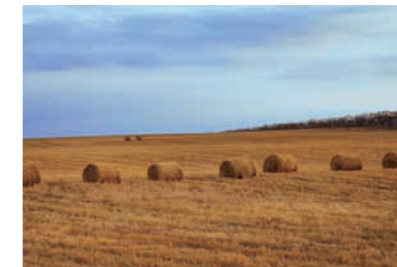
## Application Scenarios



**The Small Island**  
sea water desalination, base transceiver station, household appliances



**The Remote Village**  
illumination, refrigerator, health care, water pump, base transceiver station

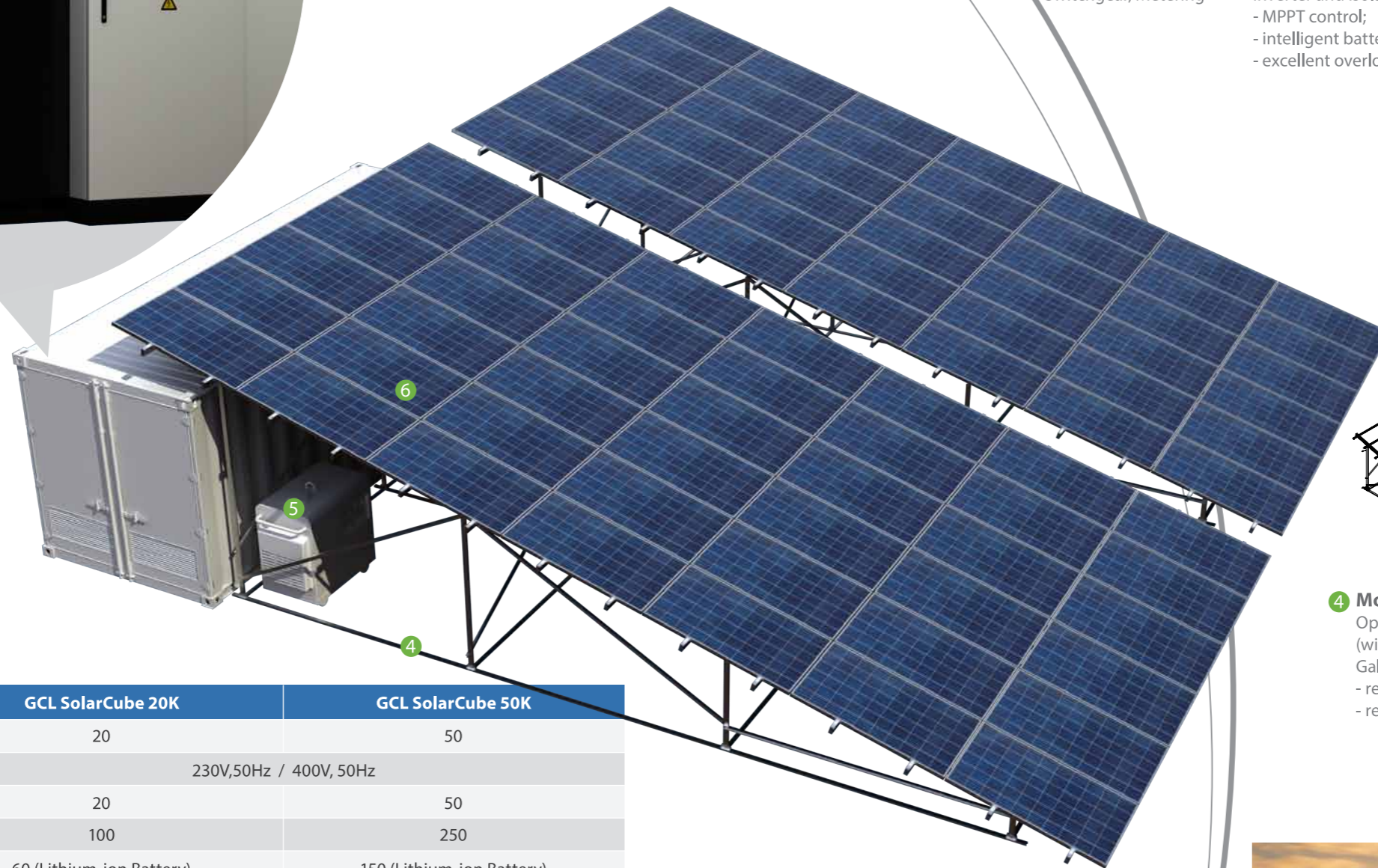


**The Farm**  
water pump, illumination, food storage



**SME industry with weak public grid**  
stable power supply for machines, illumination, fans.





**1 Distribution Box**  
AC Distribution Box, Switchgear, Metering



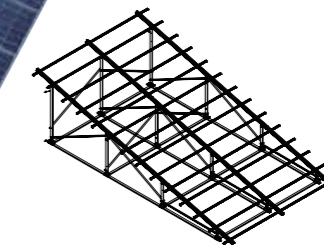
**2 three-phase off-grid inverter**  
adapts integrated design of solar controller, inverter and isolated transformer  
- MPPT control;  
- intelligent battery management  
- excellent overload performance



**3 Energy Storage**  
Battery Rack with Modular Battery, intelligent BMS, and switchgear.  
- modular design  
- safe and reliable operation



**Monitoring (optional)**  
- easy O&M  
- remote monitoring



**4 Module Mounting Structure**  
Optimum structure design (with Aluminum Alloy or Galvanized Steel),  
- reduces the field civil work  
- reduce land occupation



**5 Diesel Generator**  
- smart control panel  
- silent generator



**universal transport & access**



**6 PV Module**  
Polycrystalline  
- high efficiency  
- state of art technology

### System Configuration

		GCL SolarCube 20K	GCL SolarCube 50K
AC Output (rated)	kVA	20	50
AC Output		230V,50Hz / 400V, 50Hz	
PV Module Capacity	kWp	20	50
Daily PV Yield*	kWh	100	250
Battery Capacity	kWh	60 (Lithium-ion Battery)	150 (Lithium-ion Battery)
Diesel Generator	kVA	12.5	30
Operating temperature	°C	-10°C to 45°C	
Altitude	m	0 to 3,000m without derating	
Size (of transportation)		ISO 20ft container x1	ISO 20ft container x2
Land of field application		13m x 14m	26m x 14m
Weight	ton	6.8	15.2

\* under typical sunny day with specific yield, 5 kWh/kWp/day

\*\* model above is for SolarCube 20K

\*\*\* the actual component appearance may subject to change