

JinkoSolar to Supply 1.1MWh/500kW PV-plus-Energy Storage for Kenya Refugee Camp

JinkoSolar will supply a 1.1 MWh energy storage system (ESS) integrated with a 500kW PV project to a refugee camp in Kenya that will secure a more stable supply of power.

JinkoSolar' s air cooling energy storage system is featured of 10% higher power density compared to its peers, a pre-assembled design, and an IP65 protection rating. The company also provides liquid cooling ESS called SunGiga with 20% higher power density compared to air cooling, 20% higher lifecycles (up to 15 years), 30% less power consumption, and high-efficiency thermal management. SunGiga is a brand-new solution for applications spanning generation, grid ancillary services, regulation, and peak shaving. The device comes in a 250kWh to 2.5 MWh capacity and supports voltages ranging from 1,000 V to 1,500 V. The company's patented thermal solution can run at high

power efficiency throughout a 24-hour cycle. The system' s energy management software will give camp administrators the ability to prioritize and schedule the delivery of power based on residents' most critical needs.

While refugee camps are traditionally powered by diesel generators, diesel is more expensive than renewable energy and is dangerous to transport in a volatile region. Once the system delivers sufficient energy to the camp's households, it can then begin to tackle the clinic and school, for example, which currently rely on diesel generation.

JinkoSolar has developed and delivered a number of off-grid microgrid projects pairing solar, energy storage, and other resources in Asia, Africa.



Figure 1: Project Photos

SYSTEM TECHNICAL SPECIFICATIONS

DC Data	JKS540K-500H	JKS1080K-500H	JKS1620K-500H
Battery Chemistry	Lithium Iron Phosphate (LFP)		
Cell Life Cycle	5,000 Cycles 1C@25 90%DOD	5,000 Cycles 0.5C@25 90%DOD	
Cell Specification	3.2V/96Ah		
Battery System Configuration	4P11S	8P11S	12P11S
DC Rated Energy Capacity	540kWh	1080kWh	1620kWh
Rated Voltage	704V		
Voltage Range	616V~792V		
BMS Communication Interface	RS485, Ethernet, GPRS		
BMS Communication Protocol	Modbus RTU Modbus TCP		
Max.PV Input Voltage	1000V		
Standard/Max PV Power	600/720kW		
MPPT voltage range	250-850V		
MPPT voltage range@full load	450-850V		
AC Data			
Rated AC Power	500kW		
Maximum AC Power	550kW		
Rated Voltage	400V		
AC Rate of Current	722A		
THDi	3%		
Power Factor	1(leading) ~1(lagging)		
Rated Frequency (Hz)	50/60Hz		
AC Connection	3W+N+PE		
STS Power	500kW		
STS Switching Time	20ms		
General Data			
Dimension (W*D*H)	6,058*2,438*2,591mm	12,192*2,438*2,591mm	
Weight	<20T	<30T	40T
Degree of Protection	IP54		
Operating Temperature Range	-20~40°C		
Relative Humidity	0~95% (non-condensing)		
Max. Working Altitude	3,000m		
Cooling Concept of DC hatch	HVAC		
Communication Interfaces	RS485, Ethernet, GPRS		
Certifications	UL9540A, IEC62619, CE, UN38.3		

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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