



PROFIT AND COMFORT ENERGY LIMITED RC: 860564

Plot 2028, Apo Legislative Quarters, Sentosa Park, Apo, Abuja
 Plot 6, Elewi Odo, Jonku Area, Ibadan

Tel: +234(0)803 362 2650, +234(0)708 777 4255 +234(0)906 616 6177

Email: profit.comfort@outlook.com; profits.comforts@gmail.com

Web: <http://www.profitenergy.biz>

BLOCK CHAIN RENEWABLE ENERGY SYSTEM

FOMSOD 66S EQUITABLE ENERGY S200 [200kg/ Batch] (Solar)

66S2

TECHNICAL DATA

Drying Chamber:	0.94m x 0.79m x 1.24m	Size:	200 Kg/Batch
Tray:	0.94m x 0.69m	Power Requirement:	1.04 kW
No. of Trays:	15	Material:	*FGSS

System type Solar

Collector Plane Orientation	Tilt	30°	Azimuth	0°
User's needs :	Fixed constant load	200 W	Global	350 kWh/Year

PV Array Characteristics

Total number of PV modules	No. modules	24	Unit Nom. Power	250 Wp
Array global power	Nominal (STC)	6000 Wp	At operating cond.	5370 Wp (50°C)
Array operating characteristics (50°C)	U mpp	27 V	I mpp	200 A
Total area	Module area	39.2 m²	Cell area	35.0 m ²
Power Bank:		28.8 kWh	DOA:	2

Heat Exchanger/Drying Chamber Characteristics

Collection Efficiency:	98.0 %	Pick-up Efficiency:	75.0 – 90.0 %
Drying Efficiency:	90.0 %		
Drying Time (t) in hrs. @ 75 % Initial moisture content:	4 ≤ t ≤ 18		

Relative Humidity	Initial	Final
Capillary moisture:	65 %	46 %
Absorbed Moisture:	35 %	0 %

PV Array loss factors

Thermal Loss factor	Uc (const)	20.0 W/m ² k	Uv (wind)	0.0W/m ² k/m/s
Wiring Ohimic Loss	Global array res.	4.6 mOhm	Loss Fraction	1.5% at STC
Serie Diode Loss	Voltage Drop	0.7V	Loss Fraction	2.3% at STC

System Production

Available Energy	7928 kWh/year	Specific prod.	2592 kWh/kWp/year	
Used Energy	3504 kWh/year	Excess (unused)	557 kWh/year	
Performance Ratio PR	32.68 %	Solar Fraction SF	100.00%	
Loss of Load	Time Fraction	0.0%	Missing Energy	0.0kWh/year
Battery ageing (state of Wear)	Cycle SOW	93.9%	Static SOW	91.7%
	Battery Lifespan	20 years		

CO₂ Balance

Produced Emissions	Total:	3.64 tCO ₂
Replaced Emissions	Total:	15.9 tCO ₂
System Production:	647.76 kWh/yr	Lifetime: 25 years
		Annual Degradation: 1.0 %

Grid Lifecycle Emissions: 402 gCO₂/kWh

CO₂ Emission Balance Total: 11.6 tCO₂

System Lifecycle Emissions Details:

Item	Modules	Supports
LCE	1713 kgCO ₂ /kWp	2.68 kgCO ₂ /kg
Quantity	2.0 kWp	80.0 kg
Subtotal [kgCO₂]	3425	215

Saved CO₂ Emission: 11.6 tCO₂

COST: 9,710,000 NGN

* Food Grade Stainless Steel