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 66H EQUITABLE ENERGY H200 [200kg/ Batch] (Hybrid)

66H2

TECHNICAL DATA

Drying Chamber:	0.94m x 0.79m x 1.24m	Size:	200 Kg/Batch
Tray:	0.94m x 0.69m	Material:	*FGSS
No. of Trays:	15	Power Requirement:	40 W

System type: Hybrid

Collector Plane Orientation Tilt 30° Azimuth 0°
User's needs : Fixed constant load 40 W Global 350 kWh/Year

PV Array Characteristics

Total number of PV modules	No. modules	3	Unit Nom. Power	250 Wp
Array global power	Nominal (STC)	**750 Wp**	At operating cond.	450 Wp (50°C)
Array operating characteristics (50°C)	U mpp	27 V	I mpp	17 A
Total area	Module area	**4.95 m²**	Cell area	2.9 m²
Power Bank:	**4.8 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: $4 \leq t \leq 18$

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

EQUITY POWER OUTLETS:

- Pumping Machine
- Milling Machine
- Street Lights
- Cooking
- Cooling for storage of finished products / yet to be processed products

PV Array loss factors

Thermal Loss factor	Uc (const)	20.0 W/m²k	Uv (wind)	0.0W/m²k/m/s
Wiring Ohimic Loss	Global array res.	27mOhm	Loss Fraction	1.5% at STC
Serie Diode Loss	Voltage Drop	0.7V	Loss Fraction	2.3% at STC

System Production	**Available Energy**	**647.8 kWh/year**	Specific prod.	1296kWh/kWp/year
	Used Energy	350.4 kWh/year	Excess (unused)	278.5kWh/year
	Performance Ratio PR	39.21 %	Solar Fraction SF	100.00%
Loss of Load	Time Fraction	0.0%	Missing Energy	0.0kWh/year
Battery ageing (state of Wear)	Cycle SOW	95.2%	Static SOW	91.7%
	Battery Lifespan	20 years		

CO_2 Balance

Relative Emissions (Conventional) Total: 0.91 tCO_2
Replaced Emissions Total: 7.8 tCO_2
System Production: 647.76 kWh/yr Lifetime: 25 years
Annual Degradation: 1.0 %
Grid Lifecycle Emissions: 402 gCO_2/kWh
CO_2 Emission Balance **Total: 5.9 tCO_2**

System Lifecycle Emissions Details:

Item	**Modules**	**Supports**
LCE	1713 $kgCO_2$/kWp	2.68 $kgCO_2$/kg
Quantity	0.50 kWp	20.0 kg
Subtotal [$kgCO_2$]	856	53.6

Saved CO_2 Emission: 5.9 tCO_2

COST: **5,300,000 NGN**

** Food Grade Stainless Steel*