

Solar PV off grid system feasibility study report for Portacabins

Portacabin Unit	Location	Maximum number of Solar PV modules installed over rooftop	Maximum PV array capacity possible with Trina 400 Wp solar PV module
7 m x 4 m (20ft x 3.66ft)	Abu Dhabi , UAE	21	8 kWp
Ambient Temperature	55 ^o C		

Electrical Equipment	Quantity	Electrical Power Consumption	Daily Working Hours	Energy Consumption per day(Wh)	No.of days used / week	AC avg. Daily Load	Solar PV System Requirement (quantities are adjusted according to design)
1 ton AC (12000 BTU)	2	1,100 W	12 (6 am to 6 pm)	26,400.00	6	22.63 kWh	Solar panel : Trina 400 Wp x 20 pcs Battery : 12 V , 200 Ah x 28 pcs Charge Controller : 48 V, 70 A / 250 X 2 pcs Inverter/Charger : 48 V , 8000 VA
Projector	1	300 W	3 (day time)	900.00	6	0.77 kWh	
Desktop Computers	2	250 W	12 (6 am to 6 pm)	6.000.00	6	5.14 kWh	
Printer + Scanner	1	500 W	1 (day time)	500.00	6	0.43 kWh	
LED Ceiling lights	3	50 W	12 (6 am to 6 pm)	1,800.00	6	1.54 kWh	
R & P	1	50 W	2 (day time)	100.00	6	0.08 kWh	
Modem	1	15 W	24 (full day)	360.00	7	0.36 kWh	
Total Load = 3.72 kW		Total AC average daily load = 30.96 kWh					