

PE-30

1-AXIS
TRACKING

Annual production = 173,832 kWh

Array size (ac) = 90 kW

$$(173,832 \text{ kWh}) / [(90 \text{ kW})(8,760 \text{ hr/yr})] = 0.220 \text{ (22 percent capacity factor)}$$

Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)	Energy Value (\$)
January	4.24	11,565	1,121
February	5.60	13,366	1,295
March	6.01	15,307	1,483
April	6.89	16,526	1,601
May	6.74	16,229	1,573
June	7.36	16,906	1,638
July	7.24	16,790	1,627
August	7.35	16,985	1,646
September	6.55	15,189	1,472
October	6.06	15,005	1,454
November	4.08	10,205	989
December	3.63	9,759	946
Annual	5.98	173,832	\$ 16,845

Location and Station Identification

Requested Location	Kirksville missouri
Weather Data Source	(TMY2) COLUMBIA, MO 97 mi
Latitude	38.82° N
Longitude	92.22° W

PV System Specifications *(Residential)*

DC System Size	100 kW
Module Type	Standard
Array Type	1-Axis Tracking
Array Tilt	40.2°
Array Azimuth	180°
System Losses	14%
Inverter Efficiency	96%
DC to AC Size Ratio	1.1
Ground Coverage Ratio	0.4

Initial Economic Comparison

Average Cost of Electricity Purchased from Utility	0.10 \$/kWh
Initial Cost	3.30 \$/Wdc
Cost of Electricity Generated by System	0.15 \$/kWh

These values can be compared to get an idea of the cost-effectiveness of this system. However, system costs, system financing options (including 3rd party ownership) and complex utility rates can significantly change the relative value of the PV system.

PE-30



FIXED ARRAY

Annual production = 141,644 kWh

Array size (ac) = 90 kW

 $(141,644 \text{ kWh}) / [(90 \text{ kW})(8,760 \text{ hr/yr})] = 0.180$ (18 percent capacity factor)

Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)	Energy Value (\$)
January	3.12	8,421	816
February	4.18	9,981	967
March	4.83	12,290	1,191
April	5.82	13,898	1,347
May	5.99	14,324	1,388
June	6.64	15,107	1,464
July	6.46	14,863	1,440
August	6.25	14,349	1,390
September	5.32	12,290	1,191
October	4.59	11,332	1,098
November	3.07	7,636	740
December	2.68	7,153	693
Annual	4.91	141,644	\$ 13,725

Location and Station Identification

Requested Location	kirksville missouri
Weather Data Source	(TMY2) COLUMBIA, MO 97 mi
Latitude	38.82° N
Longitude	92.22° W

PV System Specifications *(Residential)*

DC System Size	100 kW
Module Type	Standard
Array Type	Fixed (open rack)
Array Tilt	20°
Array Azimuth	180°
System Losses	14%
Inverter Efficiency	96%
DC to AC Size Ratio	1.1

Initial Economic Comparison

Average Cost of Electricity Purchased from Utility	0.10 \$/kWh
Initial Cost	3.30 \$/Wdc
Cost of Electricity Generated by System	0.19 \$/kWh

These values can be compared to get an idea of the cost-effectiveness of this system. However, system costs, system financing options (including 3rd party ownership) and complex utility rates can significantly change the relative value of the PV system.