System Advisor Model Report

Detailed Photovoltaic 16 DC kW Nameplate 35.05, -106.64

Single Owner \$1.03/W Installed Cost UTC -7

Performance Model

Financial Model

Modules	
SANYO ELECTRIC CO	LTD OF PANASONIC GROUP VE
Cell material	Mono-c-Si
Module area	1.67 m ²
Module capacity	325.44 DC Watts
Quantity	48
Total capacity	15.62 DC kW
Total area	80 m²

Inverters	
SMA America: STP20000TL-US-10	
Unit capacity	20 AC kW
Input voltage	380 - 800 VDC DC V
Quantity	1
Total capacity	20 AC kW
DC to AC Capacity Ratio	0.78
AC losses (%)	1.00

Two subarrays:	1	2
Strings	2	2
Modules per string	12	12
String Voc (DC V)	835.20	835.20
Tilt (deg from horizontal)	35.00	35.00
Azimuth (deg E of N)	180	180
Tracking	no	no
Backtracking	-	-
Self shading	yes	yes
Rotation limit (deg)	-	-
Shading	no	no
Snow	no	no
Soiling	yes	yes
DC losses (%)	4.44	4.44

Performance Adjustments	
Availability/Curtailment	none
Degradation	none
Hourly or custom losses	none

Annual Results (in Year 1)		
GHI kWh/m²/day	5.55	5.55
POA kWh/m²/day	149.00	149.00
Net to inverter	31,470 DC	kWh
Net to grid	30,340 AC I	kWh
Capacity factor	22.2	
Performance ratio	0.82	

Project Costs		
Total installed cost	\$16,052	
Salvage value	\$0	
Analysis Parameters		
Project life	25 years	
Inflation rate	2.5%	
Real discount rate	6.4%	

Financial Targets and Constraints	
Solution mode	Calculate PPA Price
Target IRR	11% in Year 20
PPA escalation rate	1%/year

Tax and Insurance Rates		
Federal income tax	21 %/year	
State income tax	7 %/year	
Sales tax (% of indirect cost basis) 5%		
Insurance (% of installed cost) 0.5 %/year		
Property tax (% of assessed val.)	0 %/year	

Incentives	
Federal ITC	26%
Depreciation	Depreciation allocations defined
	with no bounus depreciation

Results	
Nominal LCOE	114.1 cents/kWh
PPA price (year one)	115.5 cents/kWh
Project IRR	11% in Year 20
Project NPV	\$30,800





