

System Advisor Model Report

Detailed Photovoltaic
Commercial

12 DC kW Nameplate
\$4.52/W Installed Cost

33.45, -111.98
UTC -7

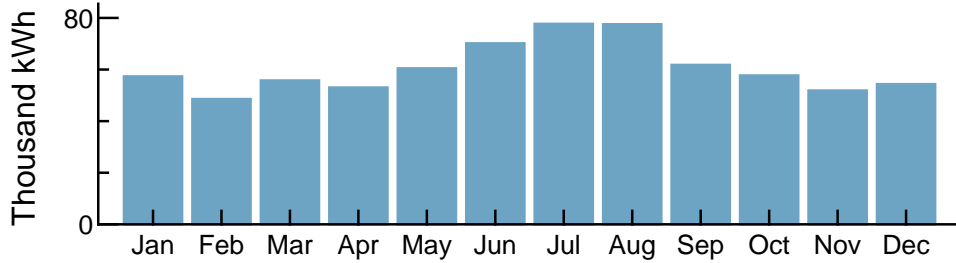
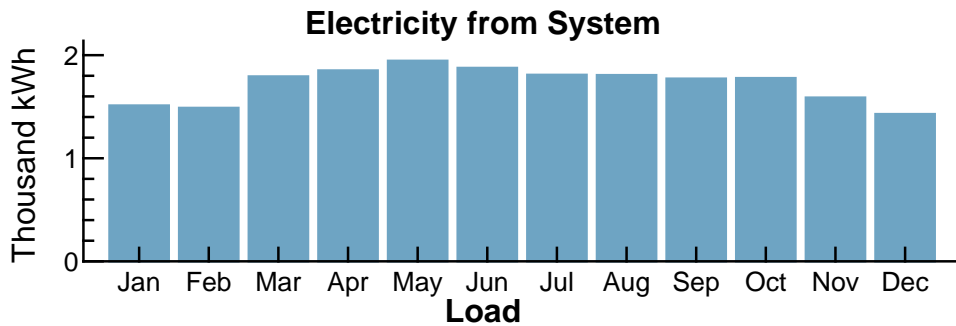
Performance Model		Financial Model	
Modules LONGi Green Energy Technology Co. Ltd. LR4-72HPH-440 Cell material Mono-c-Si Module area 2.12 m ² Module capacity 445.21 DC Watts Quantity 26 Total capacity 11.58 DC kW Total area 55 m ²		Project Costs Total installed cost \$52,287 Salvage value \$0	
Inverters SMA America: SB7.7-1TP-US-40 Unit capacity 7.76 AC kW Input voltage 270 - 480 VDC DC V Quantity 1 Total capacity 7.76 AC kW DC to AC Capacity Ratio 1.49 AC losses (%) 0.00		Analysis Parameters Project life 25 years Inflation rate 2.5% Real discount rate 6.4%	
Array Strings 2 Modules per string 13 String Voc (DC V) 638.30 Tilt (deg from horizontal) 33.45 Azimuth (deg E of N) 180 Tracking no Backtracking - Self shading no Rotation limit (deg) - Shading no Snow no Soiling yes DC losses (%) 4.44		Project Debt Parameters Debt fraction 100% Amount \$52,287 Term 25 years Rate 4%	
Performance Adjustments Availability/Curtailment none Degradation none Hourly or custom losses none		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 %/year Property tax (% of assessed val.) 0 %/year	
Annual Results (in Year 1) GHI kWh/m ² /day 5.79 POA kWh/m ² /day 155.00 Net to inverter 22,850 DC kWh Net to grid 20,650 AC kWh Capacity factor 20.4 Performance ratio 0.74		Incentives Federal ITC 30%	
		Electricity Demand and Rate Summary Annual peak demand 274.2 kW Annual total demand 726,208 kWh SG - Secondary General Service Fixed charge: \$40/month Monthly excess with kWh rollover Flat energy buy rate: \$0.03156/kWh	
		Results Nominal LCOE 3.5 cents/kWh Net present value \$7,500 Payback period 19.1 years	

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Year 1 Monthly Generation and Load Summary



Year 1 Monthly Electric Bill and Savings (\$)

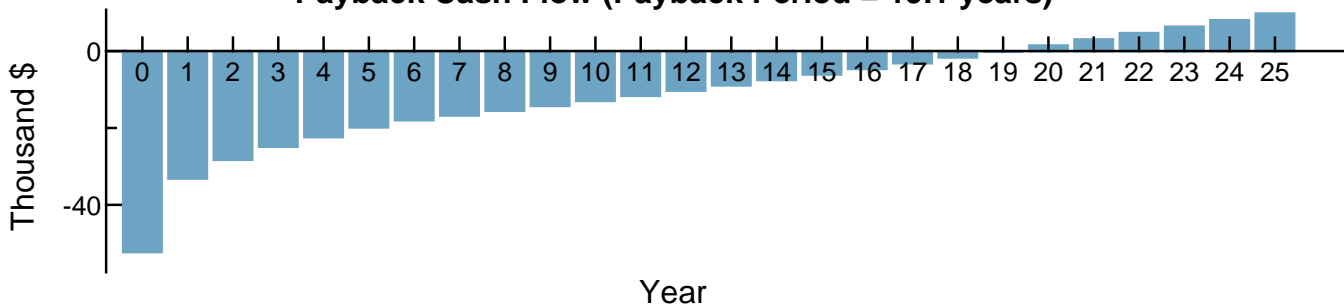
Month	Without System	With System	Savings
Jan	4,921	4,873	47
Feb	3,842	3,795	46
Mar	4,051	3,900	150
Apr	4,219	4,071	147
May	4,543	4,387	156
Jun	7,844	7,638	205
Jul	9,041	8,849	192
Aug	8,642	8,436	205
Sep	7,297	7,094	203
Oct	4,284	4,147	136
Nov	3,720	3,602	118
Dec	4,164	4,119	45
Annual	66,573	64,916	1,656

NPV Approximation using Annuities

Annuities, Capital Recovery Factor (CRF) = 0.1023		
Investment	\$-0	Sum:
Expenses	\$-3,500	\$700
Savings	\$2,900	NPV = Sum / CRF:
Energy value	\$1,400	\$7,000

Investment = Installed Cost - Debt Principal - IBI - CBI
 Expenses = Operating Costs + Debt Payments
 Savings = Tax Deductions + PBI
 Energy value = Tax Adjusted Net Savings
 Nominal discount rate = 9.06%

Payback Cash Flow (Payback Period = 19.1 years)



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