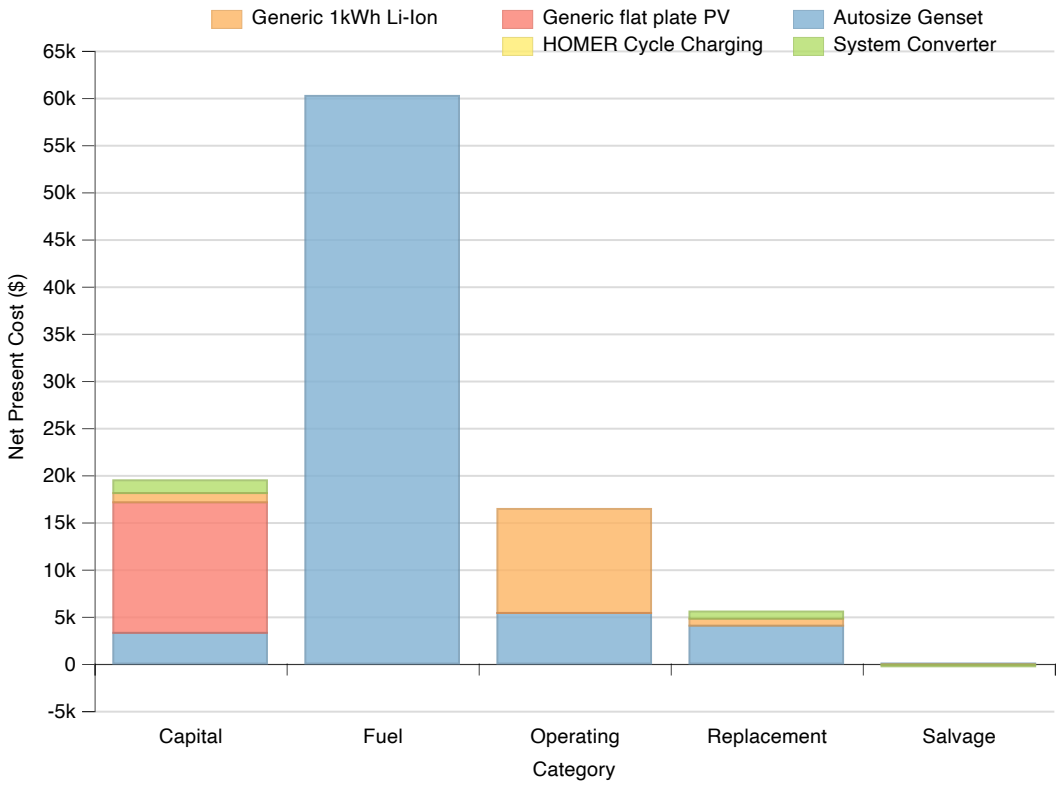
System Report

System architecture

PV	Generic flat plate PV	12	kW
Generator	Autosize Genset	7	kW
Storage	Generic 1kWh Li-Ion	7	strings
Converter	System Converter	5	kW
Dispatch Strategy	HOMER Cycle Charging		

Cost summary



Cost Summary

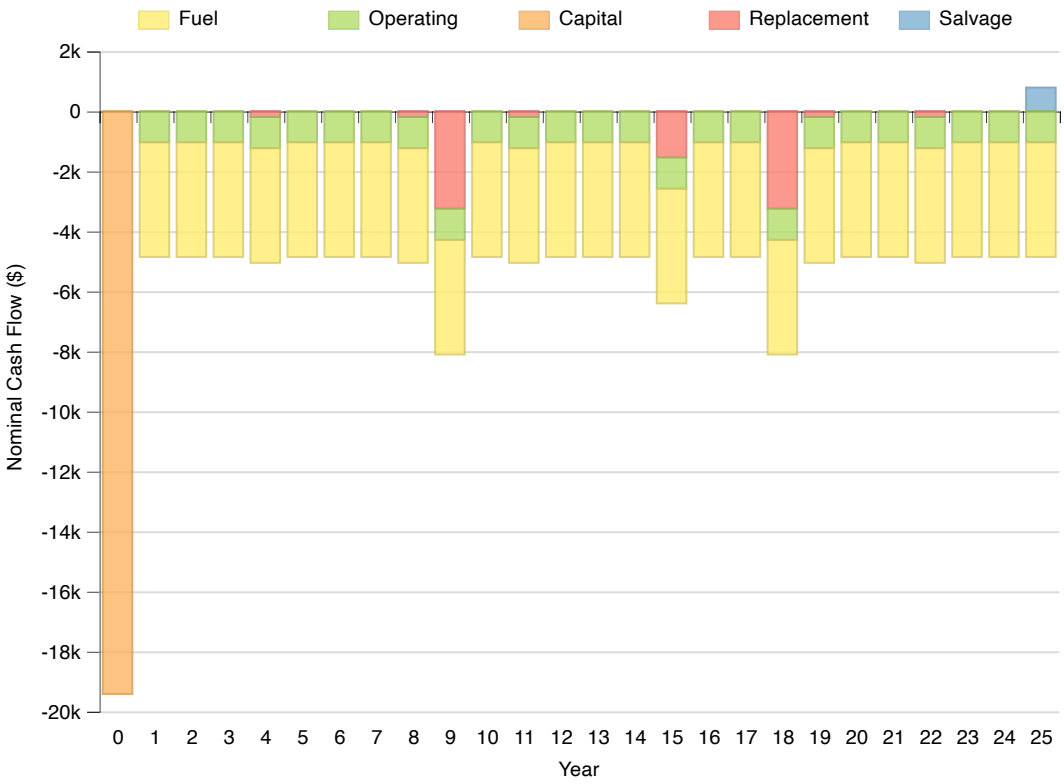
Total net present cost	101195	$
Levelized cost of energy	0.370	$/kWh

Net Present Costs

Component	Capital	Replacement	O&M	Fuel	Salvage	Total
Generic flat plate PV	13,841	0	2	0	0	13,843
Autosize Genset	3,250	4,011	5,357	60,176	-116	72,679
HOMER Cycle Charging	0	0	0	0	0	0
Generic 1kWh Li-Ion	980	740	11,027	0	-11	12,736
System Converter	1,351	759	0	0	-172	1,937
System	19,422	5,510	16,386	60,176	-299	101,195

Annualized Costs

Component	Capital	Replacement	O&M	Fuel	Salvage	Total
Generic flat plate PV	879	0	0	0	0	879
Autosize Genset	206	255	340	3,820	-7	4,614
HOMER Cycle Charging	0	0	0	0	0	0
Generic 1kWh Li-Ion	62	47	700	0	-1	808
System Converter	86	48	0	0	-11	123
System	1,233	350	1,040	3,820	-19	6,424



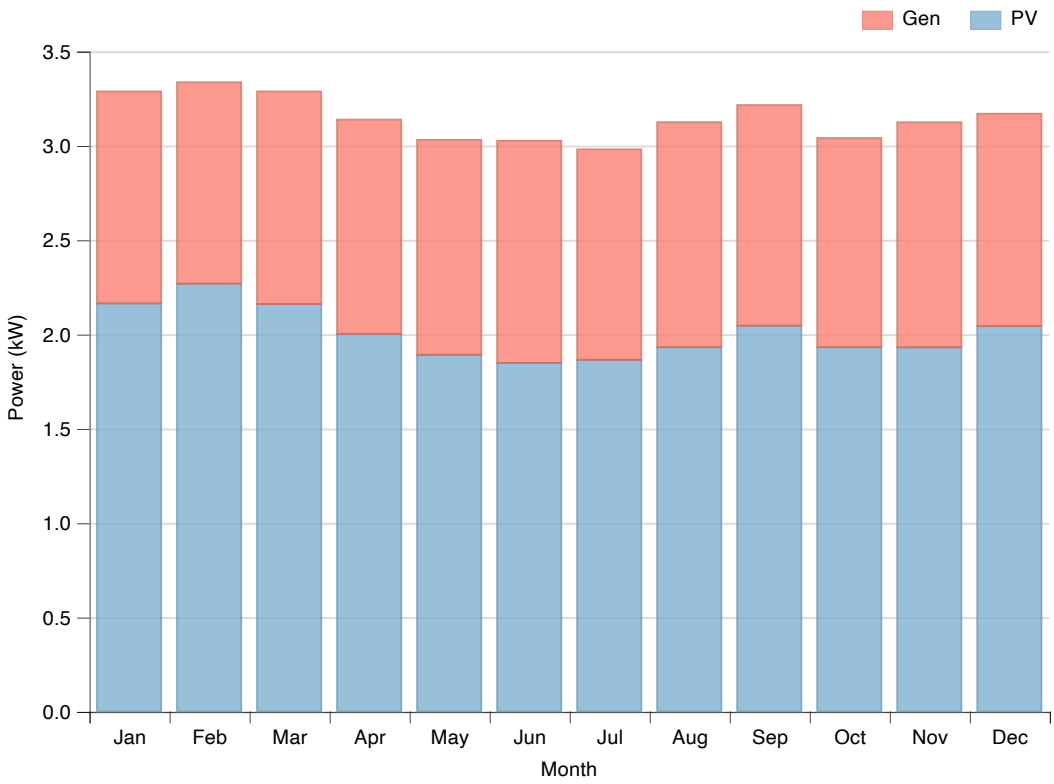
Electrical

Quantity	Value	Units
Excess electricity	9008	kWh/yr
Unmet load	0	kWh/yr
Capacity shortage	0	kWh/yr
Renewable percent	42	%

Component	Production(kWh/yr)	Percent (%)
PV	17,559	64
Generator	9,982	36
Total	27,541	100

Load	Consumption(kWh/yr)	Percent (%)
AC primary load	17,341	100

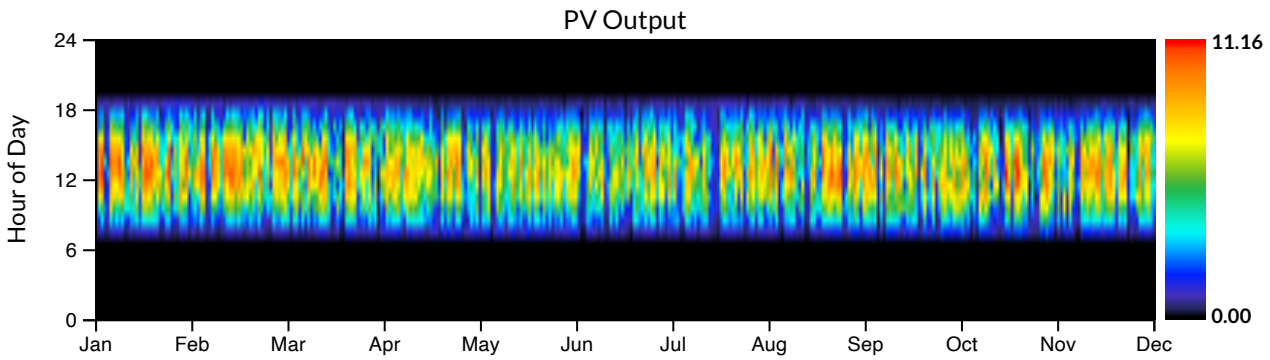
Load	Consumption(kWh/yr)	Percent (%)
DC primary load	0	0
Total	17,341	100



PV:Generic flat plate PV

Quantity	Value	Units
Rated capacity	12	kW
Mean output	2	kW
Mean output	48.11	kWh/d
Capacity factor	17.38	%
Total production	17559	kWh/yr
Minimum output	0.00	kW
Maximum output	11.16	kW
PV penetration	101.26	%

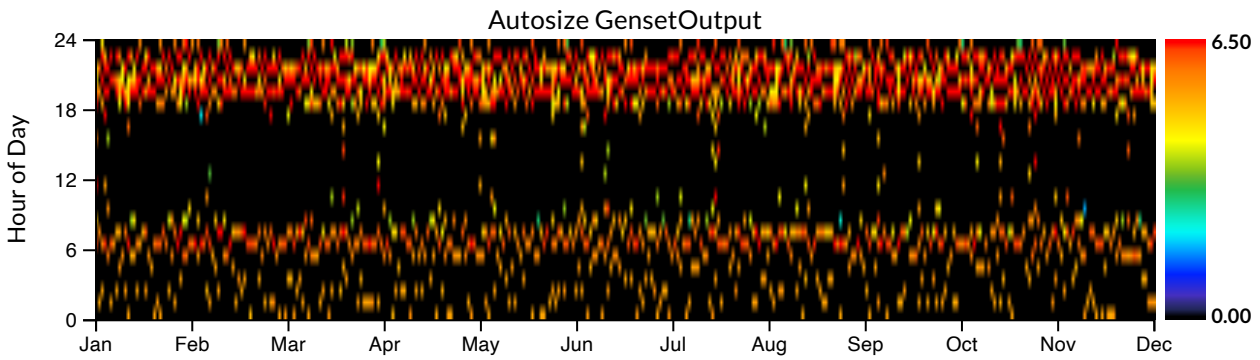
Quantity	Value	Units
Hours of operation	4380	hrs/yr
Levelized cost	0.050	$/kWh



Generator:Autosize Genset

Quantity	Value	Units
Hours of operation	1744	hrs/yr
Number of starts	1474	starts/yr
Operational life	9	yr
Fixed generation cost	0.88	$/hr
Marginal generation cost	0.30	$/kWh
Electrical production	9982	kWh/yr
Mean electrical output	6	kW
Min. electrical output	2	kW
Max. electrical output	7	kW
Fuel consumption	2989	L/yr
Specific fuel consumption	0.30	L/kWh

Quantity	Value	Units
Fuel energy input	29413	kWh/yr
Mean electrical efficiency	34	%

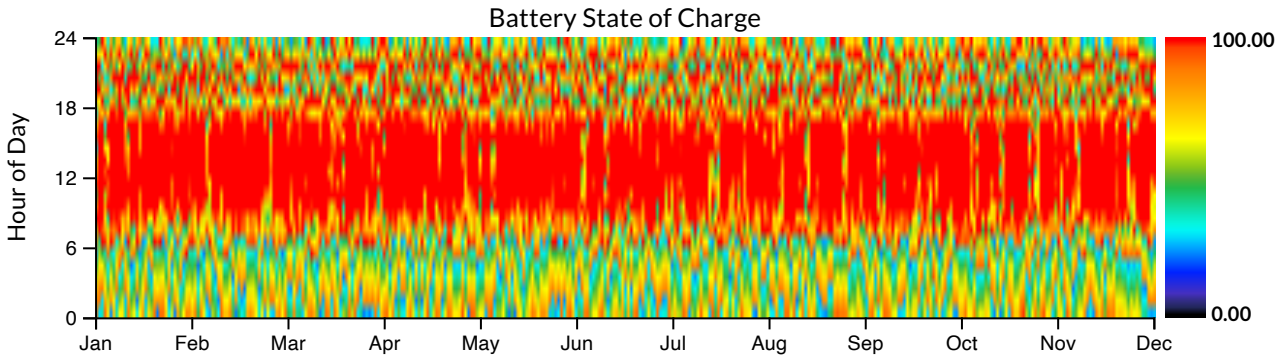


Battery:Generic 1kWh Li-Ion

Quantity	Value
String size	1
Strings in parallel	7
Batteries	7
Bus voltage	6

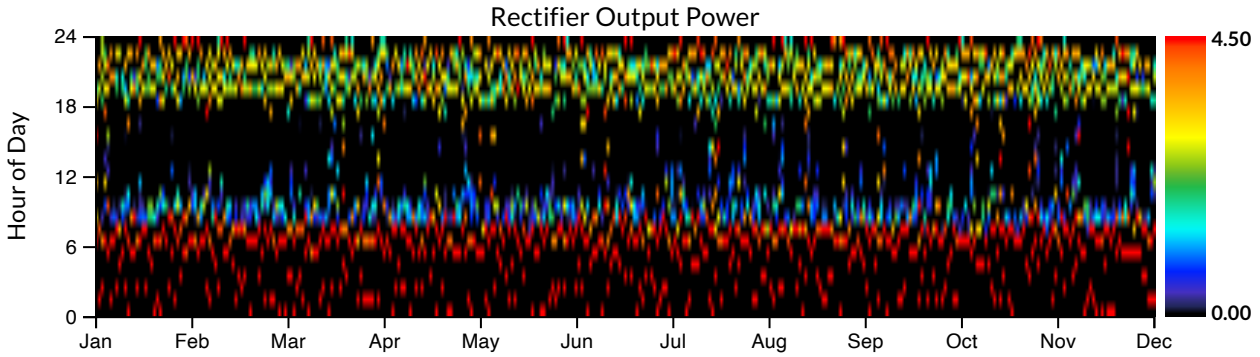
Quantity	Value	Units
Nominal capacity	7	kWh
Usable nominal capacity	6	kWh
Autonomy	3	hr
Battery wear cost	0.010	$/kWh
Average energy cost	0.298	$/kWh
Energy in	6058	kWh/yr

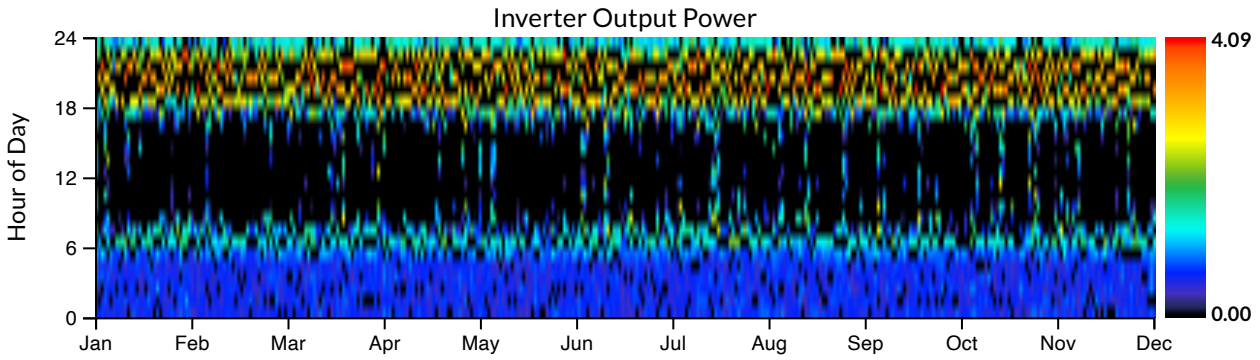
Quantity	Value	Units
Energy out	5457	kWh/yr
Storage depletion	5	kWh/yr
Losses	606	kWh/yr
Annual throughput	5753	kWh/yr



Converter

Quantity	Inverter	Rectifier	Units
Capacity	5	5	kW
Mean output	1	1	kW
Minimum output	0	0	kW
Maximum output	4	5	kW
Capacity factor	13	15	%
Hours of operation	4,269	2,273	hrs/yr
Energy in	5,457	6,377	kWh/yr
Energy out	5,184	6,058	kWh/yr
Losses	273	319	kWh/yr





Emissions

Pollutant	Emissions	Units
Carbon dioxide	7824	kg/yr
Carbon monoxide	49	kg/yr
Unburned hydrocarbons	2	kg/yr
Particulate matter	0	kg/yr
Sulfur dioxide	19	kg/yr
Nitrogen oxides	46	kg/yr