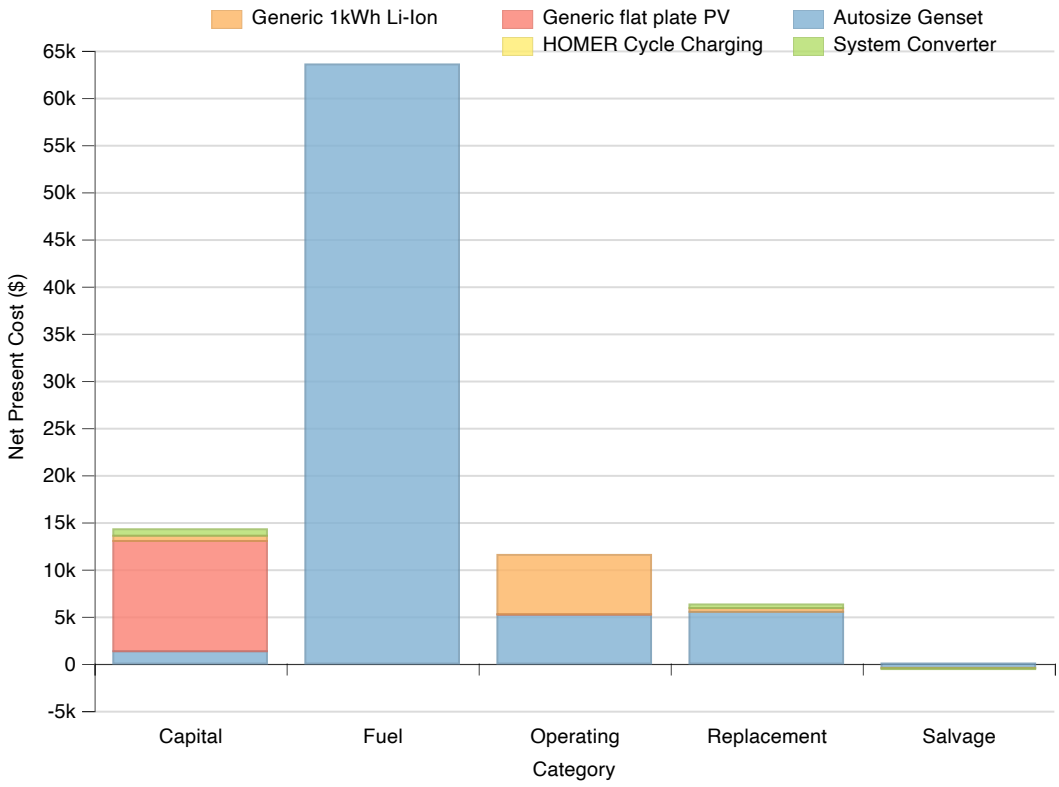
System Report

System architecture

PV	Generic flat plate PV	10	kW
Generator	Autosize Genset	3	kW
Storage	Generic 1kWh Li-Ion	4	strings
Converter	System Converter	2	kW
Dispatch Strategy	HOMER Cycle Charging		

Cost summary



Cost Summary

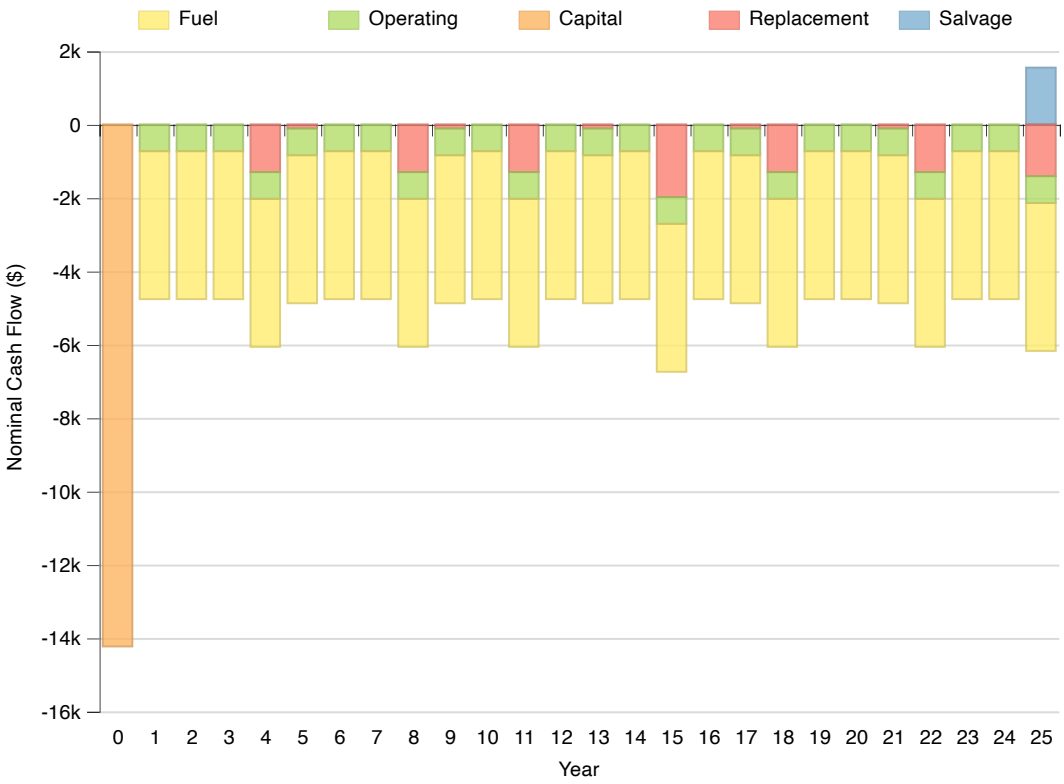
Total net present cost	94924	$
Levelized cost of energy	0.347	$/kWh

Net Present Costs

Component	Capital	Replacement	O&M	Fuel	Salvage	Total
Generic flat plate PV	11,690	0	2	0	0	11,692
Autosize Genset	1,300	5,478	5,211	63,511	-463	75,037
HOMER Cycle Charging	0	0	0	0	0	0
Generic 1kWh Li-Ion	560	399	6,301	0	-42	7,218
System Converter	681	382	0	0	-87	977
System	14,231	6,260	11,513	63,511	-592	94,924

Annualized Costs

Component	Capital	Replacement	O&M	Fuel	Salvage	Total
Generic flat plate PV	742	0	0	0	0	742
Autosize Genset	83	348	331	4,032	-29	4,764
HOMER Cycle Charging	0	0	0	0	0	0
Generic 1kWh Li-Ion	36	25	400	0	-3	458
System Converter	43	24	0	0	-6	62
System	903	397	731	4,032	-38	6,026



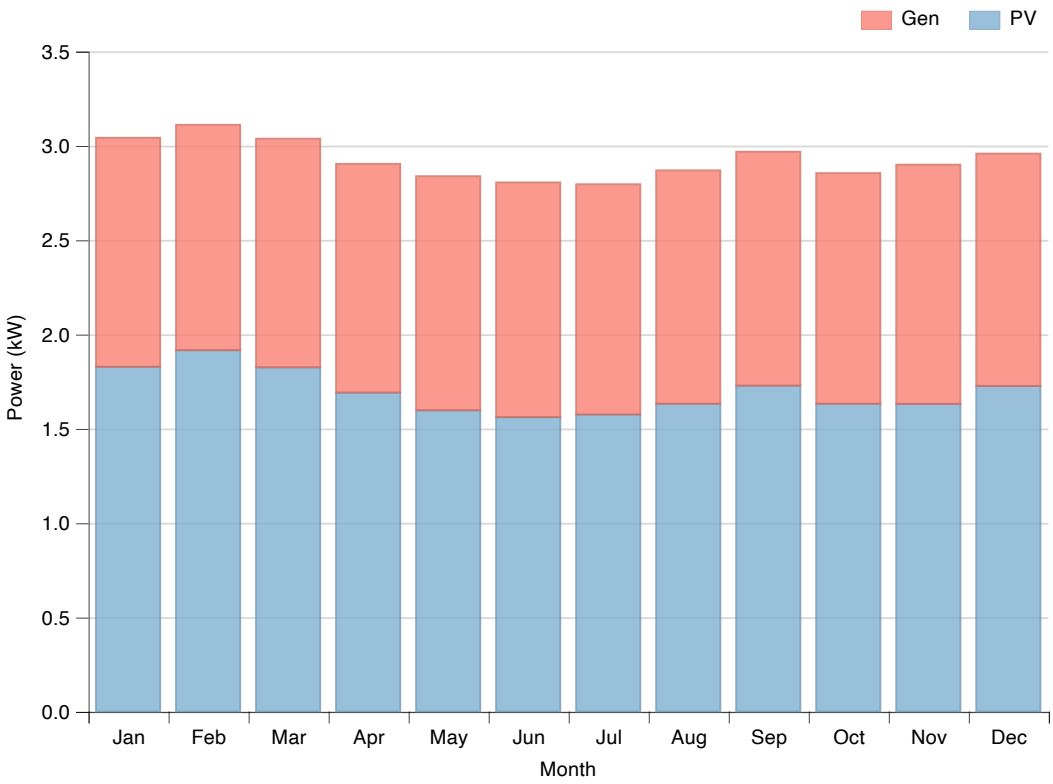
Electrical

Quantity	Value	Units
Excess electricity	7644	kWh/yr
Unmet load	0	kWh/yr
Capacity shortage	0	kWh/yr
Renewable percent	38	%

Component	Production(kWh/yr)	Percent (%)
PV	14,830	58
Generator	10,757	42
Total	25,587	100

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

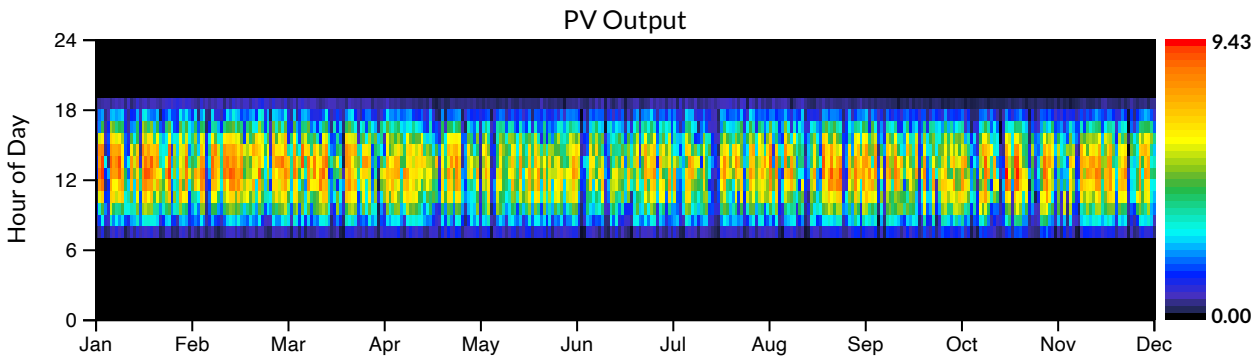
Load	Consumption(kWh/yr)	Percent (%)
DC primary load	0	0
Total	17,341	100



PV:Generic flat plate PV

Quantity	Value	Units
Rated capacity	10	kW
Mean output	2	kW
Mean output	40.63	kWh/d
Capacity factor	17.38	%
Total production	14830	kWh/yr
Minimum output	0.00	kW
Maximum output	9.43	kW
PV penetration	85.52	%

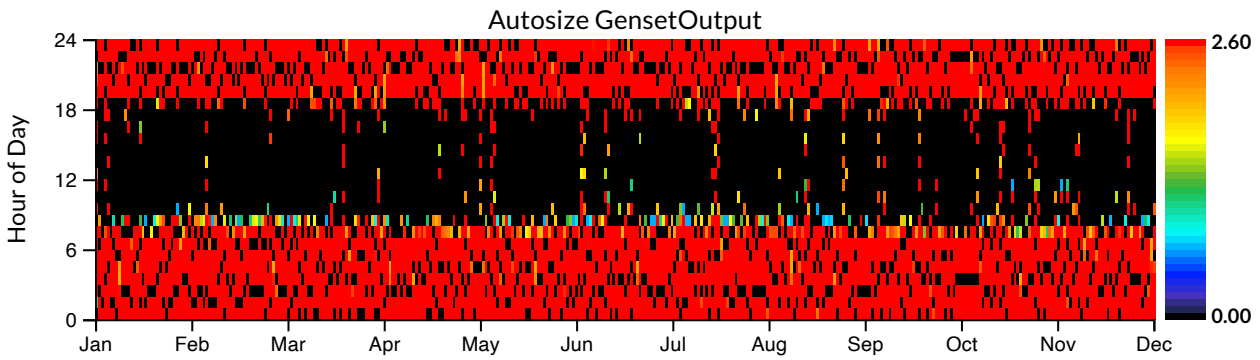
Quantity	Value	Units
Hours of operation	4380	hrs/yr
Levelized cost	0.050	$/kWh



Generator:Autosize Genset

Quantity	Value	Units
Hours of operation	4241	hrs/yr
Number of starts	1460	starts/yr
Operational life	4	yr
Fixed generation cost	0.35	$/hr
Marginal generation cost	0.30	$/kWh
Electrical production	10757	kWh/yr
Mean electrical output	3	kW
Min. electrical output	1	kW
Max. electrical output	3	kW
Fuel consumption	3155	L/yr
Specific fuel consumption	0.29	L/kWh

Quantity	Value	Units
Fuel energy input	31043	kWh/yr
Mean electrical efficiency	35	%

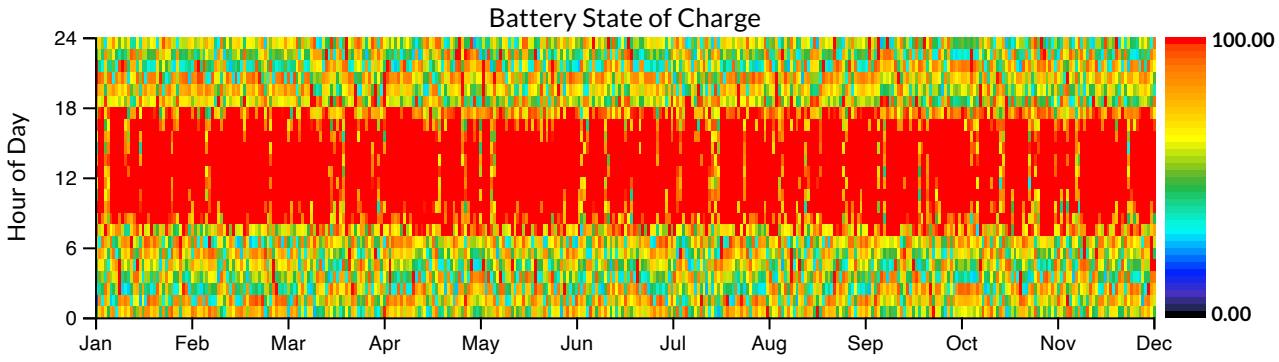


Battery:Generic 1kWh Li-Ion

Quantity	Value
String size	1
Strings in parallel	4
Batteries	4
Bus voltage	6

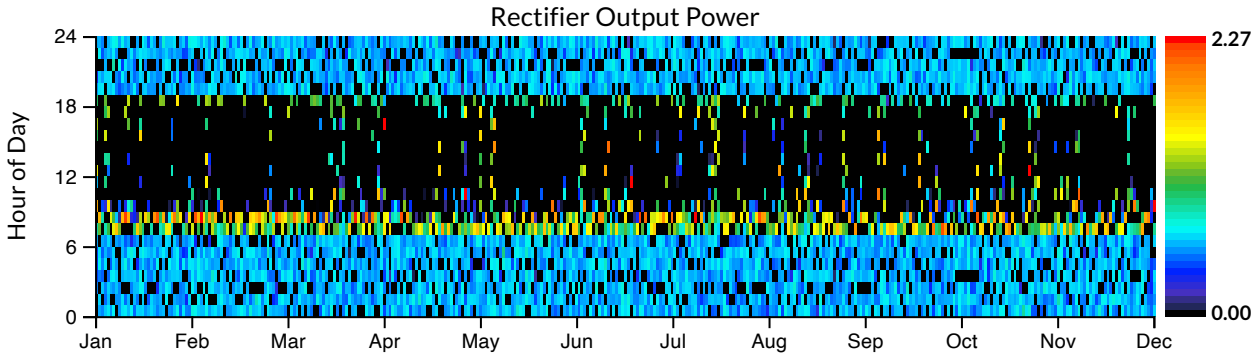
Quantity	Value	Units
Nominal capacity	4	kWh
Usable nominal capacity	3	kWh
Autonomy	2	hr
Battery wear cost	0.010	$/kWh
Average energy cost	0.321	$/kWh
Energy in	3047	kWh/yr

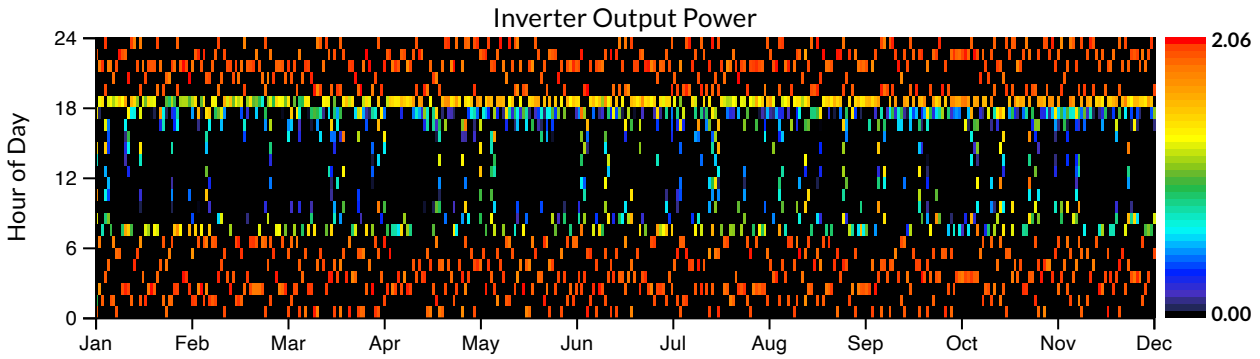
Quantity	Value	Units
Energy out	2743	kWh/yr
Storage depletion	0	kWh/yr
Losses	305	kWh/yr
Annual throughput	2891	kWh/yr



Converter

Quantity	Inverter	Rectifier	Units
Capacity	2	2	kW
Mean output	0	0	kW
Minimum output	0	0	kW
Maximum output	2	2	kW
Capacity factor	13	15	%
Hours of operation	1,854	4,498	hrs/yr
Energy in	2,743	3,208	kWh/yr
Energy out	2,606	3,047	kWh/yr
Losses	137	160	kWh/yr





Emissions

Pollutant	Emissions	Units
Carbon dioxide	8258	kg/yr
Carbon monoxide	52	kg/yr
Unburned hydrocarbons	2	kg/yr
Particulate matter	0	kg/yr
Sulfur dioxide	20	kg/yr
Nitrogen oxides	49	kg/yr