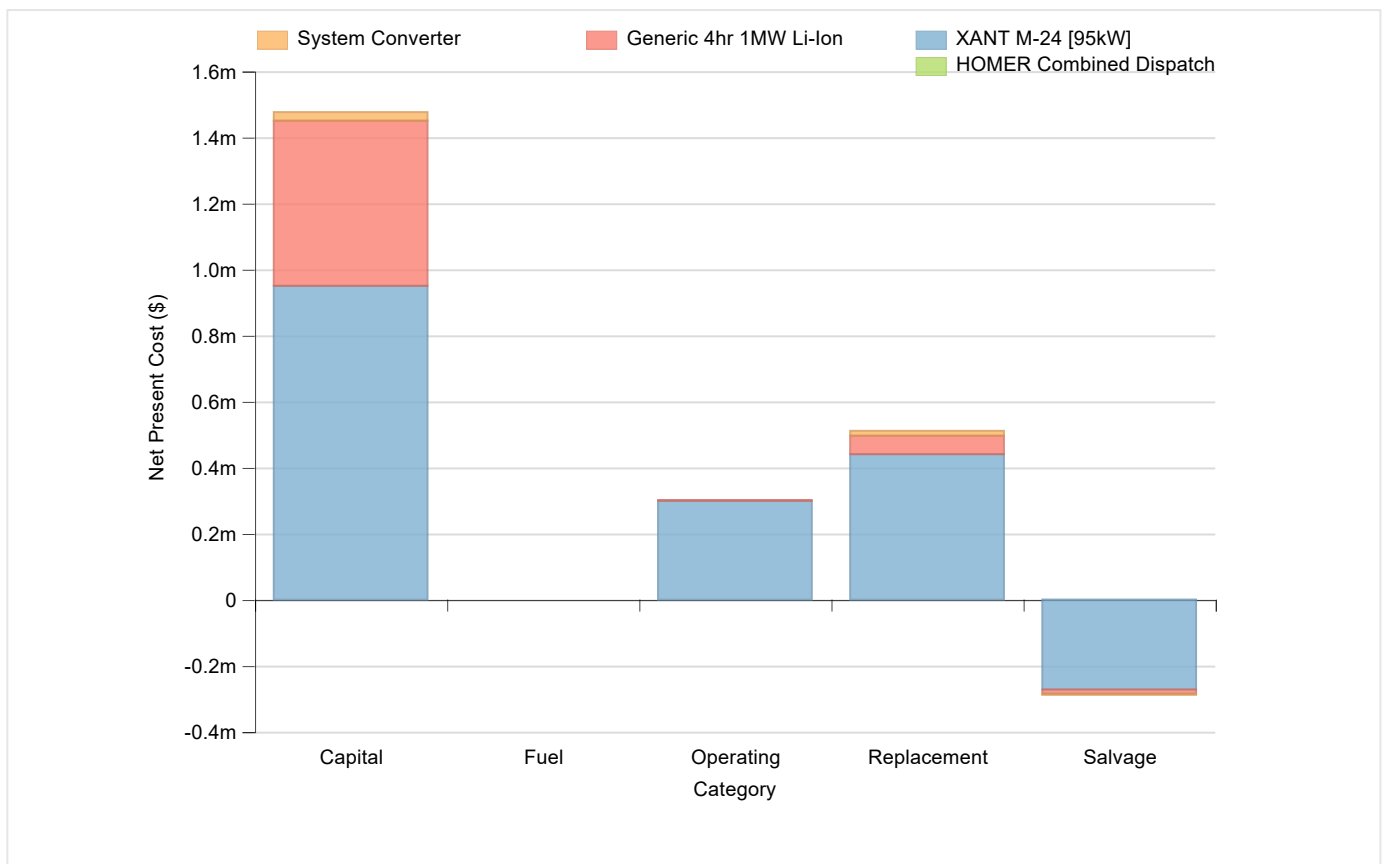


# System Report

## System architecture

Wind Turbine	XANT M-24 [95kW]	2	
Storage	Generic 4hr 1MW Li-Ion	1	strings
Converter	System Converter	86	kW
Dispatch Strategy	HOMER Combined Dispatch		

## Cost summary



### Cost Summary

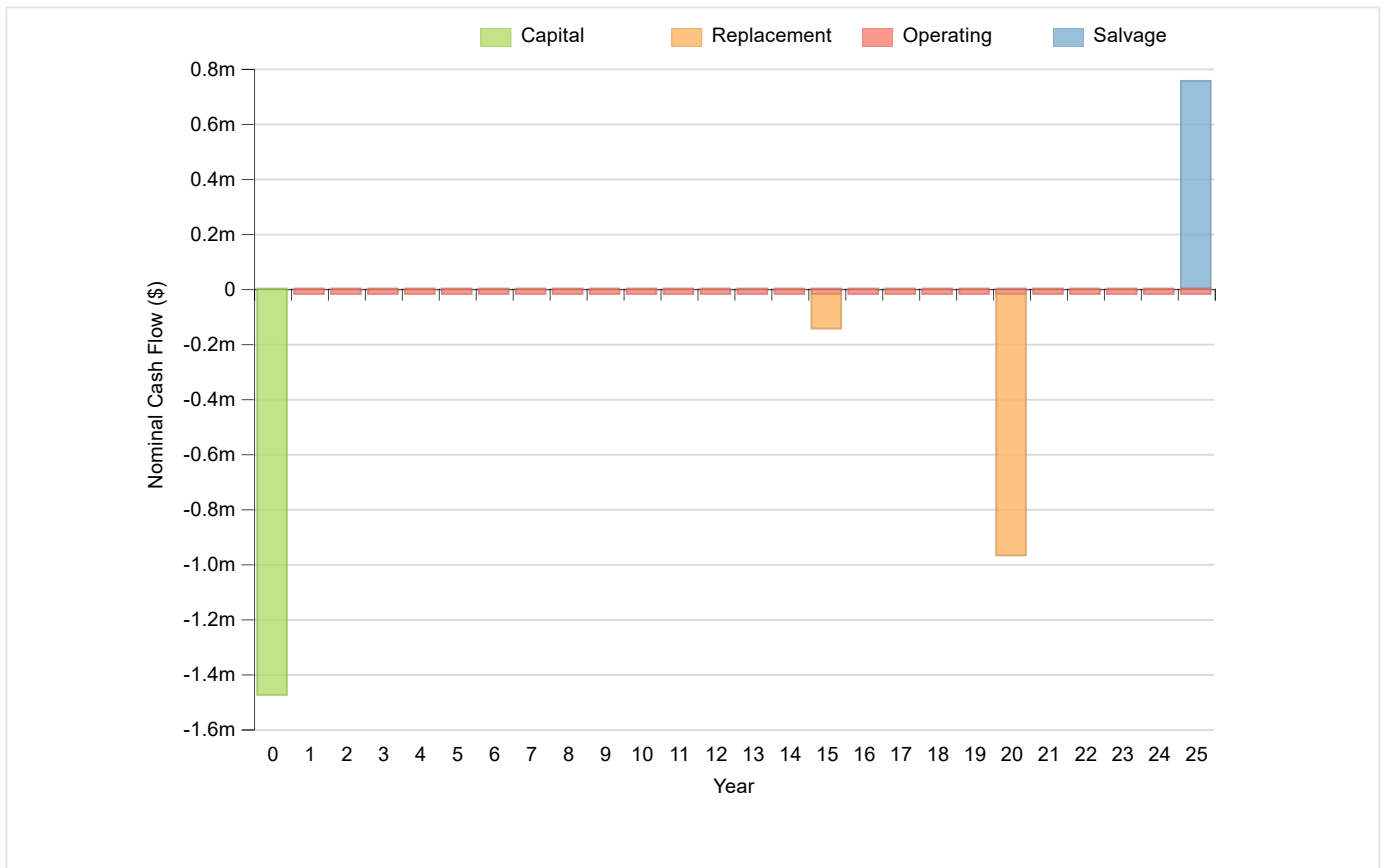
Total net present cost	1999154	\$
Levelized cost of energy	0.300	\$/kWh

# Net Present Costs

Component	Capital	Replacement	O&M	Fuel	Salvage	Total
XANT M-24 [95kW]	950,000	440,159	299,296	0	-272,360	1,417,095
HOMER Combined Dispatch	0	0	0	0	0	0
Generic 4hr 1MW Li-Ion	500,000	56,158	1,575	0	-12,742	544,992
System Converter	25,846	14,514	0	0	-3,293	37,067
System	1,475,846	510,832	300,871	0	-288,395	1,999,154

## Annualized Costs

Component	Capital	Replacement	O&M	Fuel	Salvage	Total
XANT M-24 [95kW]	60,308	27,942	19,000	0	-17,290	89,961
HOMER Combined Dispatch	0	0	0	0	0	0
Generic 4hr 1MW Li-Ion	31,741	3,565	100	0	-809	34,597
System Converter	1,641	921	0	0	-209	2,353
System	93,690	32,429	19,100	0	-18,308	126,911



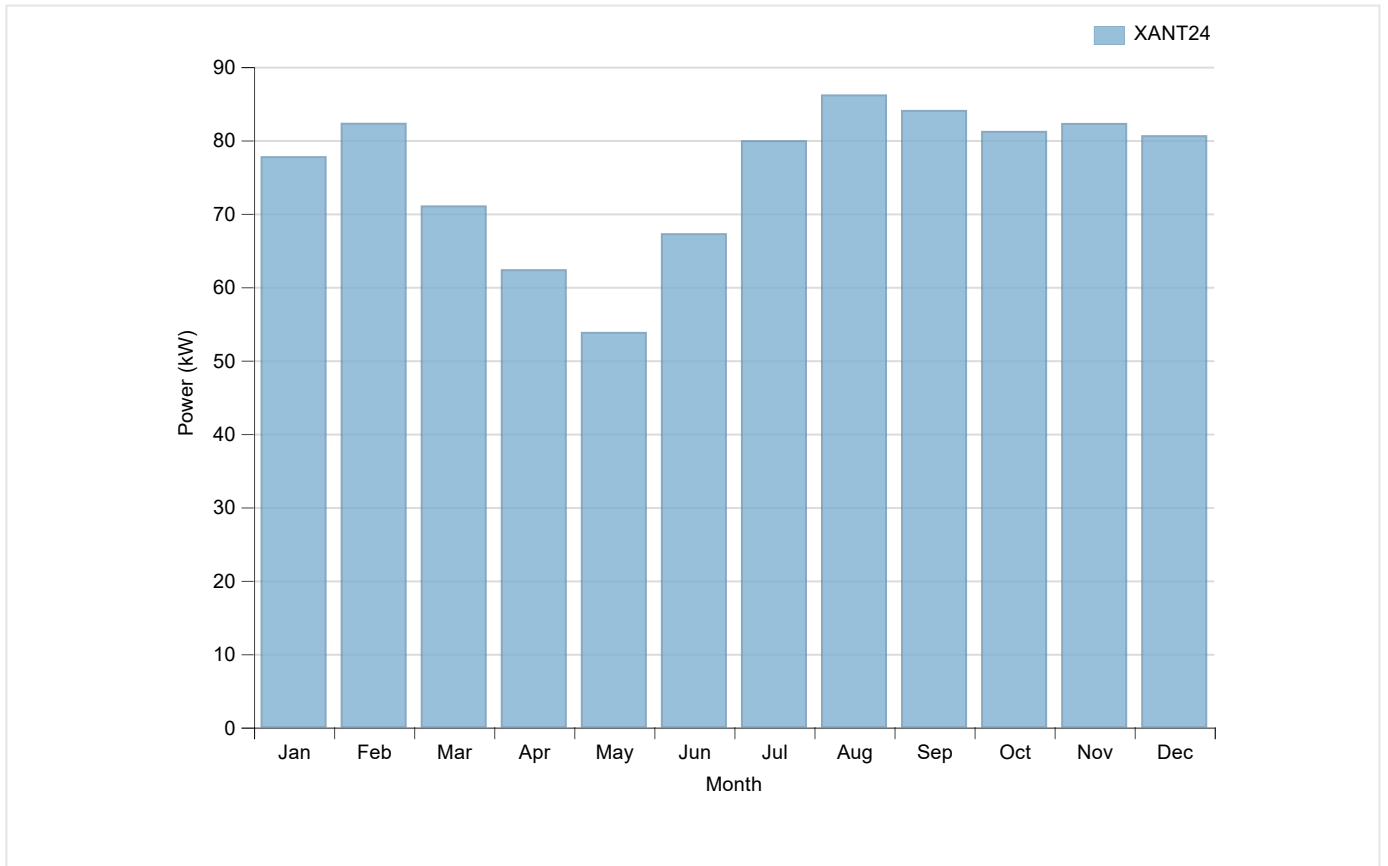
## Electrical

Quantity	Value	Units
Excess electricity	209087	kWh/yr
Unmet load	3159	kWh/yr
Capacity shortage	8917	kWh/yr
Renewable percent	100	%

Component	Production(kWh/yr)	Percent (%)
Wind Turbine	662,307	100
Total	662,307	100

Load	Consumption(kWh/yr)	Percent (%)
AC primary load	422,431	100
DC primary load	0	0

Load	Consumption(kWh/yr)	Percent (%)
Total	422,431	100



## Wind Turbine:XANT M-24 [95kW]

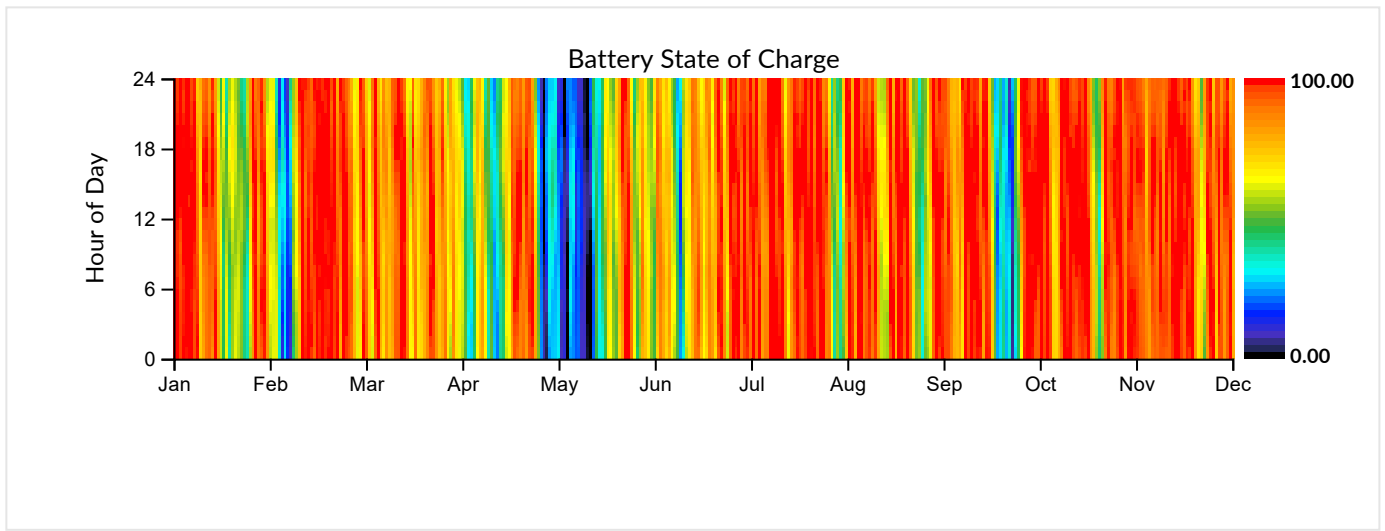
Quantity	Value	Units
Total rated capacity	190	kW
Mean output	76	kW
Capacity factor	39.79	%
Total production	662307	kWh/yr
Minimum output	0.00	kW
Maximum output	190.00	kW
Wind penetration	155.62	%
Hours of operation	7432	hrs/yr
Levelized cost	0.136	\$/kWh

## Battery:Generic 4hr 1MW Li-Ion

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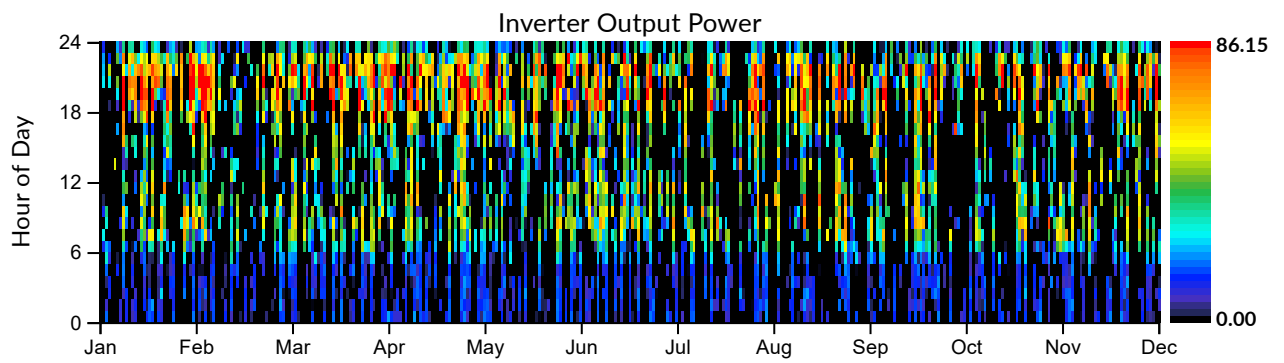
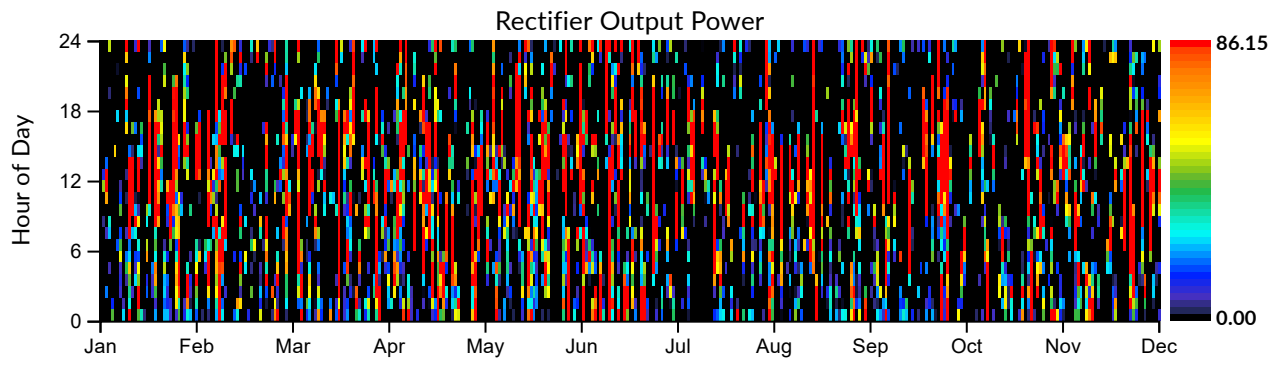
Quantity	Value
String size	1
Strings in parallel	1
Batteries	1
Bus voltage	600

Quantity	Value	Units
Nominal capacity	4216	kWh
Usable nominal capacity	4216	kWh
Autonomy	87	hr
Battery wear cost	0.005	\$/kWh
Average energy cost	0.000	\$/kWh
Energy in	158625	kWh/yr
Energy out	143353	kWh/yr
Storage depletion	622	kWh/yr
Losses	15894	kWh/yr
Annual throughput	151107	kWh/yr



## Converter

Quantity	Inverter	Rectifier	Units
Capacity	86	86	kW
Mean output	16	18	kW
Minimum output	0	0	kW
Maximum output	86	86	kW
Capacity factor	18	21	%
Hours of operation	4,012	3,126	hrs/yr
Energy in	143,353	166,974	kWh/yr
Energy out	136,185	158,625	kWh/yr
Losses	7,168	8,349	kWh/yr



## Emissions

Pollutant	Emissions	Units
Carbon dioxide	0	kg/yr
Carbon monoxide	0	kg/yr
Unburned hydrocarbons	0	kg/yr
Particulate matter	0	kg/yr
Sulfur dioxide	0	kg/yr
Nitrogen oxides	0	kg/yr