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## System Report - Mongolia.hmr

### Sensitivity case

Solar Data Scaled Average: 4.04 kWh/m<sup>2</sup>/d

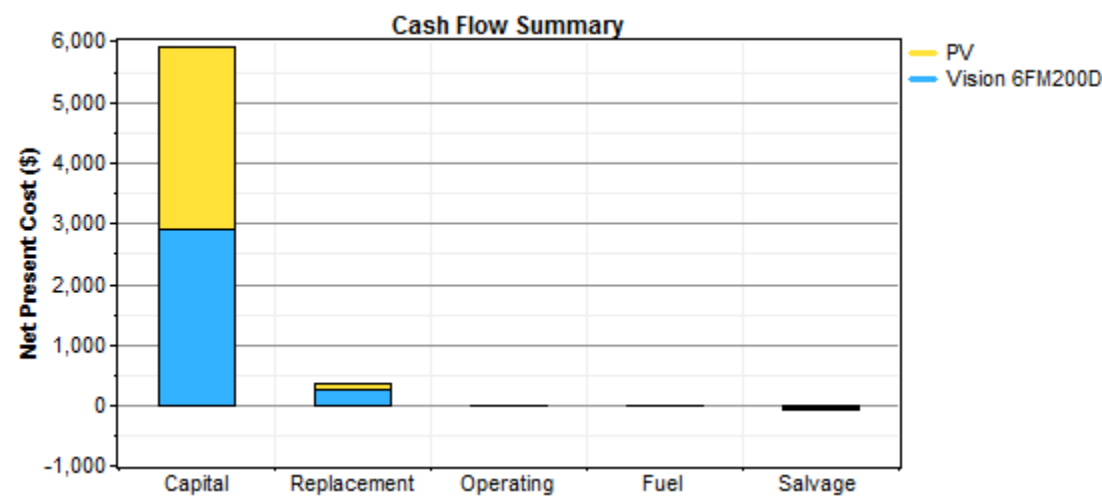
Wind Data Scaled Average: 4.54 m/s

### System architecture

PV Array 2 kW
Battery 6 Vision 6FM200D

### Cost summary

Total net present cost	\$ 6,162
Levelized cost of energy	\$ 0.298/kWh
Operating cost	\$ 20.2/yr

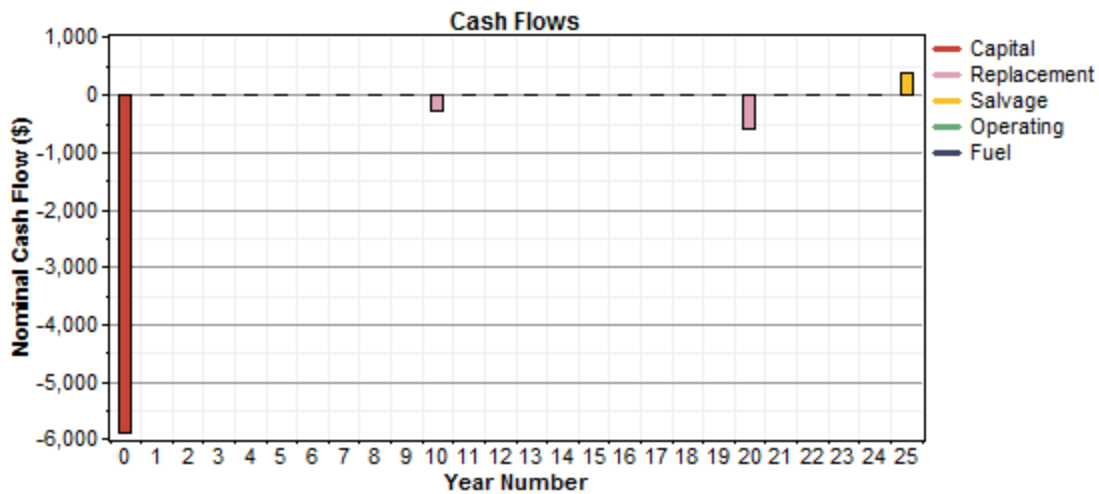


### Net Present Costs

Component	Capital	Replacement	O&M	Fuel	Salvage	Total
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
PV	3,000	94	0	0	-52	3,041
Vision 6FM200D	2,904	251	0	0	-34	3,121
System	5,904	344	0	0	-86	6,162

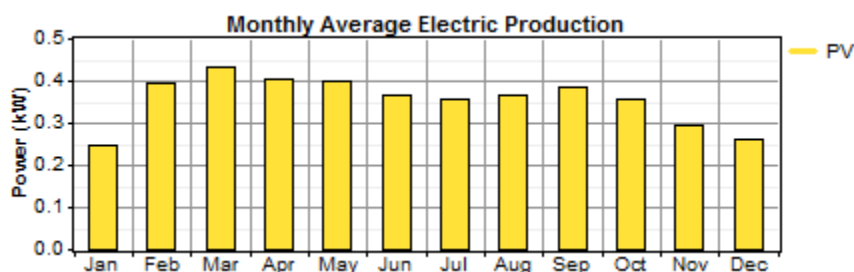
### Annualized Costs

Component	Capital	Replacement	O&M	Fuel	Salvage	Total
	(\$/yr)	(\$/yr)	(\$/yr)	(\$/yr)	(\$/yr)	(\$/yr)
PV	235	7	0	0	-4	238
Vision 6FM200D	227	20	0	0	-3	244
System	462	27	0	0	-7	482



### Electrical

Component	Production	Fraction
	(kWh/yr)	
PV array	3,116	100%
Total	3,116	100%



Load	Consumption	Fraction
	(kWh/yr)	
DC primary load	1,620	100%
Total	1,620	100%

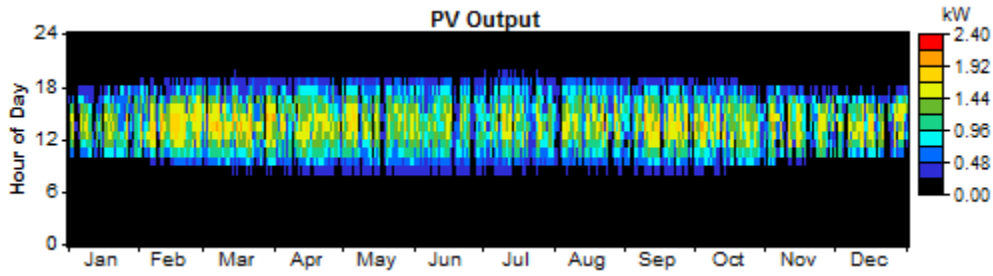
Quantity	Value	Units
Excess electricity	1,409	kWh/yr
Unmet load	0.953	kWh/yr
Capacity shortage	1.41	kWh/yr
Renewable fraction	1.000	

### PV

Quantity	Value	Units
Rated capacity	2.00	kW
Mean output	0.356	kW
Mean output	8.54	kWh/d
Capacity factor	17.8	%
Total production	3,116	kWh/yr

Quantity	Value	Units
Minimum output	0.00	kW

Maximum output	2.15	kW
PV penetration	192	%
Hours of operation	4,386	hr/yr
Levelized cost	0.0763	\$/kWh

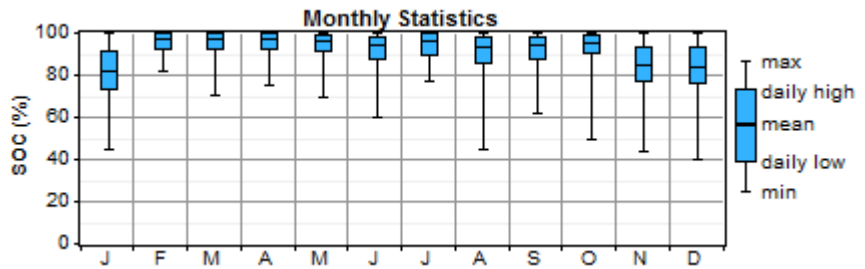
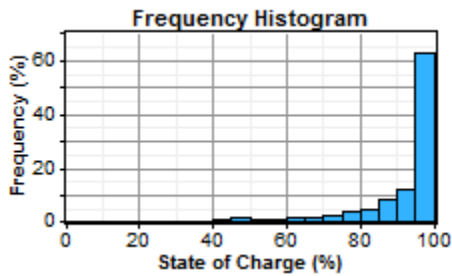


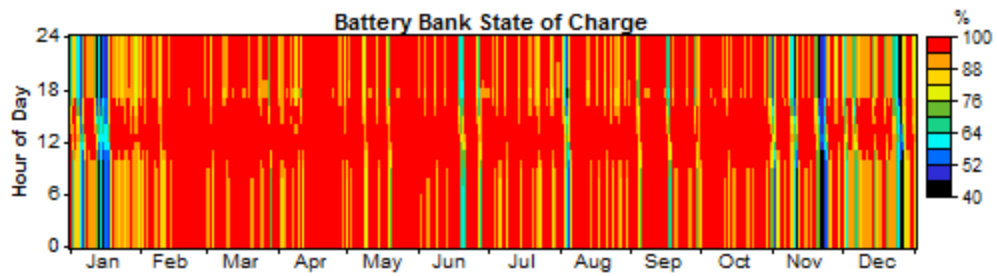
### Battery

Quantity	Value
String size	1
Strings in parallel	6
Batteries	6
Bus voltage (V)	12

Quantity	Value	Units
Nominal capacity	14.4	kWh
Usable nominal capacity	8.64	kWh
Autonomy	46.7	hr
Lifetime throughput	5,502	kWh
Battery wear cost	0.059	\$/kWh
Average energy cost	0.000	\$/kWh

Quantity	Value	Units
Energy in	448	kWh/yr
Energy out	361	kWh/yr
Storage depletion	2.76	kWh/yr
Losses	84.5	kWh/yr
Annual throughput	404	kWh/yr
Expected life	10.0	yr





## Emissions

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