

System Architecture: 6 Windmatic 925 kW 925kW Diesel 250 kW Rectifier Total NPC: \$ 10,874,687  
 3 NorthWind 100 500 Trojan T-105 Load Following Levelized COE: \$ 0.218/kWh  
 925 kW 925kW Diesel 250 kW Inverter Operating Cost: \$ 717,349/yr

Cost Summary | Cash Flow | Electrical | WM15S | NW100 | D925 | D925 | Battery | Converter | Emissions | Hourly Data |

Production			Consumption			Quantity		
	kWh/yr	%		kWh/yr	%		kWh/yr	%
Wind turbines	1,660,323	37	AC primary load	4,281,096	100	Excess electricity	153,828	3.42
925kW Diesel	2,834,641	63	Total	4,281,096	100	Unmet electric load	0.00903	0.00
925kW Diesel	1,110	0				Capacity storage	0.00	0.00
<b>Total</b>	<b>4,496,074</b>	<b>100</b>						

Quantity	Value
Renewable fraction	0.369

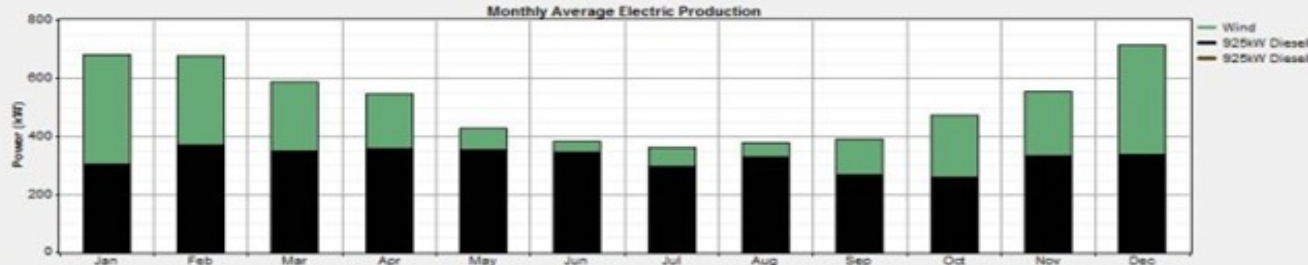


Figure 8: Expected electrical performance of the proposed hybrid power system

Quantity	Value
String size	20
Strings in parallel	25
Batteries	500
Bus voltage (V)	120

Quantity	Value	Units
Nominal capacity	675	kWh
Usable nominal capacity	473	kWh
Autonomy	0.967	hr
Lifetime throughput	422,500	kWh
Battery wear cost	0.270	\$/kWh
Average energy cost	0.000	\$/kWh

Quantity	Value	Units
Energy in	73,239	kWh/yr
Energy out	62,302	kWh/yr
Storage depletion	52	kWh/yr
Losses	10,885	kWh/yr
Annual throughput	67,576	kWh/yr
Expected life	6.25	yr

