Survivor Wind Turbine Information and Specifications Matrix 2010-2011 Presented by USA Solar & Wind Inc.

		S-5	S-30	S-100	S-300	S-500	S-1000
Rotor Configuration							
	Type	3 Blade Variable Axis	3 Blade Variable Axis	3 Blade Variable Axis	3 Blade Variable Axis	3 Blade Variable Axis	3 Blade Variable Axis
	Orientation	Downwind	Downwind	Downwind	Downwind	Downwind	Downwind
	Diameter (m)	3.79	6.2	12.33	20	25	30
	Swept Area (m²)	11.69	30.2	119.2	314	490.8	706
	Max Speed (RPM)	230	140	70	44	35	29
	Power Regulation	Tilt Control	Tilt Control	Tilt Control	Tilt Control	Tilt Control	Tilt Control
Rotor Shaft Configuration							
	Hub Material	Aluminum	Aluminum	Malleable Cast Steel	Malleable Cast Steel	Malalbe Cast Steel	Malleable Cast Steel
	Main Bearings	Double Ball	Double Ball	Double Ball	Double Ball	Double Ball	Double Ball
	Main Shaft Material	AISI 4340 or 8620	AISI 4340 or 8620	AISI 4340 or 8620	AISI 4340 or 8620	AISI 4340 or 8620	AISI 4340 or 8620
Brake							
	Type	Electrical	Electrical	Electrical	Electrical	Electrical	Electrical
	Location	Internal	Internal	Internal	Internal	Internal	Internal
Generator							
	Type	PMA	PMA	PMA	PMA	PMA	PMA
	Rated Output (kWh/day)	5	30	100	300	500	1,000
	Peak Output (kWh/day)	10 (class 4) and 12 (class 6)	39 (class 4) and 48 (class 6)	130 (class 4) and 160 (class 6)	390 (classe4) and 480 (class 6)	650 (class 4) and 800 (class 6)	1,300 (class 4) and 1,600 (class 6)
	Output Voltage (V)	24 – 48	24 – 48	415 – 480	415 – 480	415 – 480	415 – 480
	Synchronous Speed (RPM)	230	140	70	44	35	29
	Frequency	50 - 60 for thru inverter	50 - 60 for thru inverter	Grid Connect	Grid Connect	Grid Connect	Grid Connect
Yaw System							
	Type	Passive	Passive	Passive	Passive	Passive	Passive
	Bearing	Ball	Ball	Ball	Ball	Ball	Ball
Tower							
	Type	Guyed, Tubular 4" NBDia	Guyed, Tubular 6" NBDia	Guyed, Tubular 10" NBDia	Guyed, Tubular 12" NBDia	Guyed, Tubular 14" NBDia	Guyed, Tubular 16" NBDia
	Height (m)	18 -24	24 m 30 m	24m and 30m	24m and 30m	30m or 36m	30 or 36m
Component Mass Weights (kg)							
	Blades each (x3)	1.9	6.9	41.8	319.5	259	416
	Rotor Assembly	8.75	25	150	1008.5	852	1,370
	Nacelle & Frame	69	210	440	860	860	1840
	Tower (Approx)	270kg and 360kg	583kg and 728kg	944kg @24M and 1180kg @ 30M	1141kg @ 24 or 1427 @ 30m	1670 @ 30m and 2004kg @36m	1913 @ 30m and 2304kg @ 36m
Rotor Blades							
	# of Blades	3	3	3	3	3	3
	Length (m)	1.8	3.04	6.09	10	12.5	15
	Tip Chord (mm)	128	217	435	714	892.5	1,071
	Root Chord (mm)	257	438	870	1,428	1,785	2,142
	Material	Fiberglass	Fiberglass	Fiberglass	Fiberglass	Fiberglass	Fiberglass
Drive Train							
	Direct Drive	PMA	PMA	PMA	PMA	PMA	PMA
Mainframe							
	Construction	Fabrication	Fabrication	Fabrication	Fabrication	Fabrication	Fabrication
	Material	Steel	Steel	Steel	Steel	Steel	Steel
Controls							
	Controller Type	Battery Monitor	Battery Monitor	Grid Sync	Grid Sync	Gid Sync	Grid Sync
Operational Parameters							
	Cut-in (m/s)	3	3	3	3	3	3
	Cut-out	N/A	N/A	N/A	N/A	N/A	N/A
	Furling	VRA	VRA	VRA	VRA	VRA	VRA
	Survival	100+	100+	100+	100+	100+	100+
	Rated	5 WH/day	30 WH/Day	100 WH/Day	300 WH/Day	500 WH/Day	1,000 WH/Day
	Overspeed Protection	Variable Rotor Area	Variable Rotor Area	Variable Rotor Area	Variable Rotor Area	Variable Rotor Area	Variable Rotor Area
Applications							
	Stand Alone	yes	yes	yes	no	no	no
	Grid Connection	w/inverter	w/inverter	yes	yes	yes	yes
	Direct Heating	yes	yes	yes	yes	yes	yes
	Pumping	yes	yes	yes	yes	yes	yes
Product Life (years)		20+	20+	20+	20+	20+	20+
Warranty (years)		5	5	5	5	5	5
Price		Check with USA Solar & Wind Inc 1 904 513 1418	Check with USA Solar & Wind Inc	Check with USA Solar & Wind Inc 1 904 513 1418	Check with USA Solar & Wind Inc 1 904 513 1418	Check with USA Solar & Wind Inc 1 904 513 1418	Check with USA Solar & Wind Inc. 904 513 1418
Additional Info		All Survivor Turbines are rated by total KWH/day delivered in Class 2 winds (average 9.8 mph or 4.5 m/s).					