WINDBUSTER™

5kW small vertical axis wind turbine

HOW MUCH ENERGY CAN I EXPECT TO PRODUCE?

	ROC (UK)	FITs (UK)	FITs (US)
Average wind speed at site (m/s)	**5.9**	**5.9**	**5.9**
Approximate energy generated (kWh/year)	12145	12145	12145
Cost to purchase inc 12m mast	£19,000.00	£19,000.00	$31,223.00
Purchase grant	£2,500.00	£2,500.00	$9,366.90
Value of Energy per year	£2,429.00	£2,429.00	$1,335.95
Value of support mechanism per year	£416.57	£2,793.35	$3,036.25
Total value per year	£2,845.57	£5,222.35	$4,372.20
Payback time (years)	**5.8**	**3.2**	**5.0**

Assumptions - Air density – 1.22565 kg/m3 | Weibull shape parameter – 2 | Roughness length – 0.055m (0.18ft) | Wind measurement height – 18m (59.05ft) | Turbine cut in speed – 3.5m/s (7.8mph) | Turbine cut out speed – 16m/s (35.79mph) | Rotor diameter for calculations – 3m (9.84ft) | Hub height – 18m (59.05ft) | Power coefficient – 0.35 | Standard designed power curve used | Electricity valued at 20p per kWh | ROC value at £34.30/MWh | FIT value of 23p/kWh | US tax credit 30% of purchase cost | Tariff in Michigan used for US example | US electricity cost 11¢ / kWh | US FIT 25¢ /kWh

STANDARDS

Certification
MCS certification due in 2009
USA certification not yet required
All electric components UL rated

Design Standards
Surface Preparation – BS 8501:2007
Structure – BS EN 61400-2:2006
Joints – BS 5950

YOUR LOCAL WINDBUSTER RESELLER

UK TRADE & INVESTMENT | AWEA BUSINESS MEMBER | REA RENEWABLE ENERGY ASSOCIATION | member of BWEA

SEAB ENERGY LTD
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Company Registered in England and Wales No. 06354529

WINDBUSTER™

5kW small vertical axis wind turbine

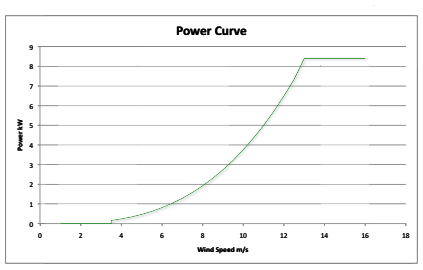
Make your own
green energy
www.seabenergy.com

- ✓ **Less** noise due to slow wing tip speed
- ✓ **Low** wind start up speed means you capture energy sooner
- ✓ **Flexible** install on flat roof or on the ground
- ✓ **Fewer parts** reduces cost of maintenance
- ✓ **Increased** energy production due to innovative rotor design
- ✓ **Make money** selling your green energy back to grid with FITs
- ✓ **Save** money for producing and using your own energy
- ✓ **More** time generating power. Capture wind from all directions
- ✓ **Store** energy using battery back up or use unit off-grid
- ✓ **Qualify** for grants or tax credits
- ✓ **Record** your carbon savings
- ✓ **5 year** limited manufacture's warranty

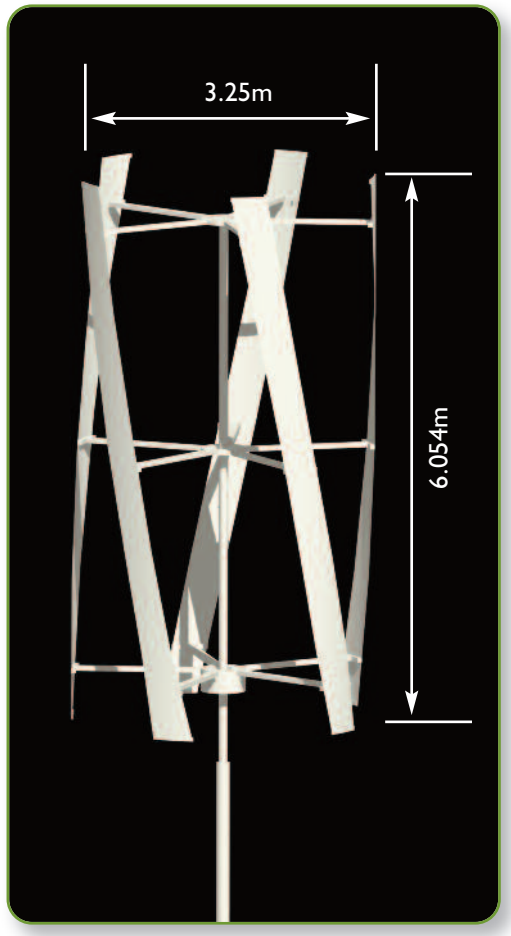
WINDBUSTER 5kW

PERFORMANCE

m/s	kW
1	0
2	0
3	0
3.5	0
3.5	0.16
4	0.24
4.5	0.34
5	0.47
5.5	0.62
6	0.81
6.5	1.03
7	1.29
7.5	1.58
8	1.92
8.5	2.30
9	2.34
9.5	3.22
10	3.75
10.5	4.34
11	5.00
11.5	5.71
12	6.50
12.5	7.33
13	8.4
13.5	8.4
14	8.4
14.5	8.4
15	8.4
15.5	8.4
16	8.4



DIMENSIONS



WIND SPEEDS

- Minimum required annual wind speed – 4.5 m/s (10.06 mph)
- Annual mean wind speed (AMWS) for best performance – 7 m/s (15.65 mph)
- Optimum wind speed – 13 m/s (29.08 mph)
- Cut out wind speed – 16 m/s (35.79 mph)
- Maximum Survival wind speed – 58 m/s (category 3 hurricane – 129.74 mph)

WINDBUSTER™ can pay for itself within as little as 5 years

PRODUCT COMPONENTS

Turbine Head Blades & Frame

- 6m height (19.68ft) * 3.25m diameter (10.66 ft)
- Blades made of glass reinforced plastic
- Light grey blades which spin regardless of wind direction and alignment
- Steel frame
- Aluminium spokes
- Mechanical safety Brake
- Direct drive permanent magnet generator

Electronics

- Power management package: inverter/rectifier
- Battery: 3 days storage
- Controller with software: internet enabled, GPRS, ADSL
- Grid interface: Smart Consumer Meter or two meters
- Anemometer for wind data capture

Mast Height

- Roof mount: 4m (13.12ft), 8m (26.24ft)
- Ground mount: 15m(49.21ft), 20m (65.61ft)
- Made of epoxy coated marine quality galvanized steel

Training & Installation

- MCS certification due 2009
- Installer and reseller training available
- User manual

WHAT IS A WINDBUSTER™ 5kW?

A WINDBUSTER™ is small vertical axis wind tubine, with a rated power output of 5kW at 11 m/s (24.60 mph). WINDBUSTER™ is meant for residential or small commercial installations. When installed in a location with sufficient wind resource, the WINDBUSTER™ can pay for itself within as little as 5 years. The unit has been designed with readily available electrical components and a minimum number of parts, to simplify maintenance and reduce the costs involved in keeping the unit working. The innovative design of the rotor, means you are capturing the maximum power from the wind, with very little noise, no matter how many times the wind changes direction. WINDBUSTER™ cuts in at 3.5m/s (7.8mph), a low wind speed, and cuts out at 16 m/s (35.79 mph), producing power in a wide range of wind speeds. More time producing power, means quicker payback.

IS THE WINDBUSTER RIGHT FOR YOU?

Do you have enough wind? 4.5m/s (10.06 mph) is the minimum average wind speed recommended, although an average of 5 m/s (11.18 mph) is preferable.

Do you have enough space? The WINDBUSTER™ should be positioned at least its full height away from any obstacles based on current regulations in most countries. You will also need good access for delivery of the mast and blades for installation. You may also want to consider roof mounting on a flat roof.

Are there local regulations? As the regulations vary greatly by country, you will need to consult your local reseller or government office. Some areas allow installation of the WINDBUSTER™ without any permitting process.

How do I apply for a grant or a tax credit? We have a wide variety of grant and tax credit information on our website, organised by country. We also track the Feed-in tariff discussions happening in most countries.

Will I use all the energy or resell it to the grid? We can offer a grid- connected solution or an off-grid solution with a battery backup unit. You can sell the energy you generate and also receive money for the green energy you use.

Can I roof mount the turbine? Yes, the WINDBUSTER™ can be roof mounted on a flat roof. It will be necessary to verify the strength of the roof before installation.

Will I be able to maintain the unit? Your local WINDBUSTER™ reseller will offer a maintenance contract.

Is liability insurance available? In some areas, your local WINDBUSTER™ reseller will be able to offer liability insurance cover.

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