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Greenpeace

So here I am, looking for a wind turbine to charge my batteries, should be simple but I don't really know too much about all this stuff and the salesman in the shop has just completely baffled me. (Probably because he didn't know what he was talking about in the first place).

There are Chinese turbines for \$500.00, there's a US turbine for \$1400.00, there's an English one for \$1300.00 and another English one for \$3000.00. I'm scratching my head and thinking to myself. "How can there possibly be that much price difference between four turbines that claim to produce about the same amount of power"? Okay, let's look a little closer and see if we can't sort this out.

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I won't dwell too long on the "China Factor". I have received, and still receive, so many calls from people with problems with their Chinese turbines. The most common problems are: Blades out of balance – 113 grams is the record so far - and dysfunctional regulators.

Blades, well, what can I do about that? Not a lot without major surgery!

People have asked me for a reg for these things. Problem is, the price I give for a good regulator, one that will do the job, is about the same as they paid for the whole shebang – which they cannot justify paying having bought the whole turbine with reg for less albeit not now working. The good thing about most of these Chinese turbines is that they weigh about 45kg so if they don't work you should get most of your money back from the scrap metal alone. But, some people reckon they're alright, they must have got a "Wednesday" unit.

Cheap. Built without a lot of thought to design or function unless copied from other brands without regard for patents. About \$500.00 buys one of these.

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### Air Marine.

Air Marine, claimed to be made in the US of A but I would question the legitimacy of that one. Probably the best looking and lightest wind turbine around and very fashionable with the marina dwellers. Not a bad output, when they're working, however, they do have their problems – lots of them. I won't go into them all here because you can see my web site for more details. Make no mistake, light weight and a quite low price tag of around \$1400.00 does not come without something being sacrificed. Many independent bodies have questioned the output rating of the Air and I guess the company had to bow to the

mounting pressure when they reduced the “rated output” of the latest Air Breeze to 200 watts down from 400 watts for the previous model, the Air X – basically the same machine. Internally regulated, if the electronics have a meltdown you are without power and will have to take the whole turbine down to effect a repair. These turbines are claimed to have a survival wind speed of 100 knots or so but I have seen lots of them fail quickly and miserably in a lot less than 100 knots, half that wind speed in fact.

Built down to a price and this is reflected in the lack of consistent quality.



About \$1400.00

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Then we have the English made Rutland 913.

These turbines have been around for many years and have a good reputation. Officially rated at 80 watts but is claimed to have a maximum output of 300 watts. I've never seen one put out 300 watts but that's what they reckon. Not a bad sort of economy turbine. No pretences with this one, a basic machine that is easily pulled apart for repair and not really a lot to go wrong. Internally rectified and externally regulated, can still give you power in the event of an electronics melt down. In my experience, these turbines are a good all rounder but should not be left unattended in a known high wind site because, as with the Air, they will fail in extreme conditions if they are not tied off.

Built to a standard for the average user.



About \$1300.00

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Ampair Pacific 300:

I have sold a bunch of these British made turbines with zero returns, zero requests for installation help and zero requests for spare parts over the past two years. Not so good for my business with no sales after the initial one but good for you, the end user customer. You buy one of these babies, install it and forget about it. These units are rated at 300 watts and will supply it. Built like a tank, they are made to go the distance. For example, a single Air Marine blade weighs just 175 grams while an A300 blade weights 320 grams, almost twice as much. Perhaps this is why I have sold thousands of replacement Air blades and not a single Ampair 300 blade. “NOT ONE”. These turbines do not rely on unreliable electronics or blade flutter to slow them down in high winds, they have a mechanical furling system built into the hub that twists the blades out of the wind and reduces blade drive. The A300 is externally rectified and regulated and can still give you power in the unlikely event of an electronics melt down. Power comes down the pole in

AC, giving more efficient power delivery, “all” the sensitive electronics are easily accessed outside of the turbine. There is no stated rated wind speed for these turbines, “Storm Proof” is all they need to say. This statement has been proven recently when one survived, completely unscathed, a Tornado strike in a Mackay marina that snapped the mast of the boat it was fitted to. Marina dwellers don’t usually buy this turbine, whereas serious ocean cruisers will not buy anything else, heavier than and Air Marine but more powerful and only a little heavier than a Rutland 913.

A serious wind turbine built up to a standard to withstand almost anything nature can throw at it.



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Conclusions:

As with anything else, wind turbines are horses for courses.

If you want super cheap:

Take your chances with a Chinese turbine.

If you want pretty:

Air Marine is for you.

If you want basic:

Rutland is your baby.

If you want “Storm Proof”:

Pay the money, look big, and buy an Ampair.

PS:

There is an Ampair 100 that I didn’t include here because of its lower output.

However, interestingly enough, I recently read an independent comparison report between Rutland 913 (300 watt stated maximum output) and the A100 (100 watt stated maximum output). Over the 4 day test period the Ampair 100 watt maximum output turbine was only 25% below the output of the 300 watt maximum output Rutland 913. 141.5 amps compared to 105.2 amps. And for each individual day of the test it was consistently only about 25% down. Either the Rutland underperforms its specs or the Ampair over performs, perhaps a bit of each.



They don’t come much tougher than this baby.

Note:

Rated output is usually at 24 knots, maximum output can be substantially higher. There is no rated output for Ampair 100 only a maximum stated output of 100 watts. Looking at the chart, the output at 24 knots is around 80 watts, the same rated output as the Rutland 913.

Please feel free to call us about any of these turbines.

Ampair, Rutland, Aerogen, Sharp Solar, Inverters,  
Solar controllers, Isotherm refrigeration and more.