Wind and Solar Power – a (Green) Blue-Water Cruiser's Perspective

Richard Moore and his wife ware in their sixth year of a gentle circumnavigation on board their Hallberg Rassy 36. They write about their experiences in choosing and fitting a wind turbine and solar panels onboard **ALIESHA,** their Hallberg Rassy 36, which is their home. To spend 20 nights a year in a marina would be unusual and power is a topic we are acutely aware of. So it was interesting to read the article on wind and solar power generation in the RYA Magazine and to compare its suggestions with our own experience.

Wind Generators

We started our voyage with a wind generator that could be hoisted into the rigging while at anchor. It was a conversion of an AQUAIR towed water generator (more of that later) and the people from whom we bought it at the London Boat Show in 2001 warned us that it would produce very little electricity. They were absolutely correct and it didn't contribute much to our daily need for 100 or so Amps. So we did some research; to see what were the popular makes on other cruising boats and how they compared.

In the Caribbean in late 2002 three models stood out. Most popular was the US-made Air X Marine, which gave ultra high output but at the price of being exceptionally noisy. We would go to the other side of an anchorage to get away from one of these and many owners confessed they had to turn theirs off in order to sleep. The Trinidad-made KISS was also popular, very simple in design, rugged and offering high output for a given wind, but we worried that the lack of slip rings could mean a badly twisted power cable and lead to problems. The British-made Aero6Gen generated slightly less power for a given wind than the other two but had slip rings to allow safe rotation and was almost totally silent in operation. It won our vote.

ALIESHA in Bora Bora showing her Aero6Gen mounted on its second pole.

We bought a second hand one locally, had a Venezuelan fabricator make a stainless steel pole for it and wired it in ourselves. We were immediately delighted. In a typical trade wind of 15-20 knots we were getting 4-5 amps every hour. Our need to run the engine every day for an hour or more was halved. Despite some adventures along the way (like the pole breaking during a 50 knot squall in the ICW in S Carolina, dumping the generator into the water and breaking all the turbine blades) it has been doing its job day and night whenever the breeze hits 10 knots or more. We would not be without it.

Solar Power

We left England with two flexible solar panels, each capable of providing about 1.9 Amps each hour in full sunlight. We reasoned that we would be able to move these around to catch the best sunlight and that they would tolerate the occasional shadow better than other makes.

Call us lazy if you like but we rarely found the energy to move these panels from their stowage place alongside the coachroof/cockpit coamings so as to put them in the best sunlight. As a

result they gave us hardly any power and we felt we had chosen unwisely. We still found it necessary to run the engine about an hour on most days while we were at anchor to top up the batteries. This is not good for a diesel, of course and in May of this year (2006) while in Brisbane we decided to do what we should have done in the first place - build a goalpost arch across the stern and mount two of the latest photo-voltaic solar panels on it, along with our trusty Aero6Gen.

We selected 125Watt panels from Sharp. They are said to be very tolerant of shadows and we believe this to be a fair claim. With our own past experience to guide us, and in view of the size of the panels (1.55m x.33m) we opted for a fixed mounting, reckoning they would generate enough power on sunny days to compensate for a less than optimal angle to the sun.

ALIESHA sports her new goalpost arch and two solar panels

The results have exceeded our expectations. In the four months since these panels were installed we have run the engine for battery charging on only two occasions, instead of almost every day. So great is their output that we often have to shut down the wind generator to avoid over-charging the batteries (the Aero6Gen is not regulated, the solar panels are).

Conclusions

For the green-minded cruiser in UK waters the lack of reliable sunshine must make the investment in modern solar panels and an arch on which to mount them hard to justify. Personally I think a wind generator would be a better choice. But for live-aboard sailors, especially if they have plans to sail the Mediterranean or further afield then we would say without hesitation, build an arch across the stern of your boat and mount both a wind generator and two modern solar panels on it, add a regulator to both for peace of mind and say good-bye to noisy engines spoiling the peace of quiet anchorages.

And finally…

I mentioned the AQUAIR towed water generator. This has unquestionably been our best green power generator while on passage. Mounted on the pushpit, and powered through a rotator towed on the end of a 33 metre line, this device generates about 3 Amps every hour at 4 knots; 5 Amps at 5 knots and so on up to hull speed. Its only drawback, a small one, is that the rotator does attract the occasional bite from a passing shark!

AQUAIR rotator after being chewed by a shark. (The AQUAIR itself is in the right of the picture)