Harnessing the sun for free energy in Australia by Sylvia Lambert

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The dream of free energy from whatever source has long been man's dream. Although not converted into energy man has made use of wind for centuries in moving ships about. Eric Newby wrote a book about sailing a four masted steel barque from London to Australia to collect grain in about 1938. (The Last Grain Race). This was about the last commercial use of wind power for transport. Shortly thereafter the world was plunged into war and although sail is still used as a sport and great developments in technology have been made it is not seriously in contention to be used to power commercial shipping again.

Wind is of course being used for the generation of power by wind turbines. Were the wind a constant and reliable factor these installations would be a commercial boon. Sadly it is not and if there is too little wind and often if there is too much the turbines are ineffective so at best the commercial on shore wind farms are producing 20% of their design capacity and require some heavy subsidies to be viable. Their big advantage is that when conditions are right the power that is produced is carbon neutral.

Private wind turbines suffer from the same problem. They are expensive to install, dependent on wind to generate power and fairly noisy. As yet they are not effective for urban installation.

It was the dream that nuclear reactors would provide cheap energy for centuries but so far the problems of nuclear power stations counter balance the advantages. Sure, once the installation is built and all safeties are in place, nuclear is great. But the upfront cost of a nuclear power station is huge must be raised up front. Secondly there is the spent fuel which although no longer producing enough heat in reaction to be useful is still radioactive and will remains so for thousands of years.

So we come to solar. Now this is a potential endless source of free energy as , when the sun is shining, a kilowatt of raw power is available per square meter of surface. If we could efficiently capture and store that all energy problems for the human race would be over. Right?

Yes right, maybe, But there are a few little problems to overcome along the way. Efficiency, capture and storage. The full spectrum of available light from the sun cannot be used, both infra red and ultra violet don't work on the current photovoltaic cells. The best and most modern photovoltaic cells, which are hideously expensive, are claiming to get about 35% efficiency while most, and that includes those in the household installation range, are more like the 6%. With ideal conditions and a roof facing due north and an angle of roof line matching the latitude of the house you can expect a 6% return for the installation.

It is critically important when considering a solar panel installation that a professional does the installation to maximize the available efficiencies. The panels should be mounted at an optimal angle, shade need to be avoided while the panels should be adequately ventilated to get rid of excess heat which reduces their efficiency. The storage batteries and inverters need to be adequate and so on.

When getting Solar Quotes consider clicking into Shop Smart Solar in Australia where only accredited installation companies are listed and will be recommended. Similarly if you are a installer get accredited with us to get leads.

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