

Solar thermal – a hot topic

Shining an optimistic light on climate change...

While the media debates the potential resurgence of nuclear energy and the controversial aesthetics of wind farms, a silent revolution sweeps the land. Stimulated by local promotion schemes and national grants, ordinary people have dug into their own pockets to fund renewable energy systems for their homes.

There is a marked change across the UK in the way we think about energy production and small-scale renewable energy production has much to offer.

The DTI funded Clear Skies scheme provides grants for various technologies, including wind power hydro and wood pellet boiler systems. Of all the incentives offered, solar thermal attracts the smallest grant, yet it accounts for around 90% of those offered to consumers. Since 2000, the number of newly installed systems has risen from 11,000 to 22,000 in 2003. That figure is set to reach 30,000 by the end of 2005.

The hugely successful Clear Skies grant is unquestionably a powerful driver of the solar thermal market but it is often local, council run promotion schemes that act as a catalyst by raising awareness at a local level. The National Energy Foundation facilitates many of these schemes, providing expert advice,

and helping by vetting and regulating installers so that quality is assured.

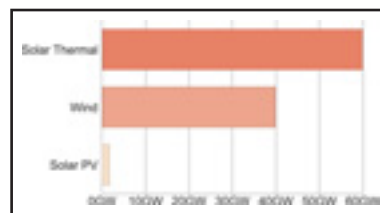
In Britain, each square metre of a south facing roof receives around 1,000kWh of solar radiation during a year. This means that many of our homes receive – and currently waste – more energy from the sun in a year than would provide both the space heating and hot water.

Currently, the main use of solar thermal (ST) is for domestic hot water heating. A suitably sized system can be expected to yield 50-70% of a home's requirements. When combined with energy-efficient housing design, solar space heating can be cost-effective.

Domestic space heating and hot water accounts for 30-40% of Britain's energy demand, so the potential is obvious. Nevertheless, in the UK, we have been surprisingly slow to catch on. Despite having one of the largest economies, we only account for 1% of the European market share in solar systems. We can learn much from countries such as Cyprus, where 90% of new build housing is fitted with a solar collector.

ST receives little of the publicity enjoyed by its electricity generating cousin, but contributes more to the global energy pool than solar PV and wind power combined. A recent report published by the European Solar Thermal Industry

Federation (ESTIF) revealed a new mechanism for converting the traditional measure of ST capacity (m²) into kWh. This new mechanism enables ST to be compared, for the first time, to other technologies. For the period up to 2003, the cumulative global ST capacity was around 60GW, well ahead of wind at 40GW and dwarfing solar PV at 1.8GW.



Modern systems easily integrate into the fabric of new buildings and the capital costs are substantially lower than other forms of renewable energy. There is no doubt that the potential savings for the environment are huge. We enjoy the sun when it shines on us, and now we can harness its energy in an efficient and affordable way – more and more consumers are coming to realise this, and the silent, positive invasion of solar panels is bound to continue. Solaris Free Energy Ltd design and install solar thermal systems for schools, housing associations and individual homeowners. The company is also actively involved in developing products to improve efficiency and drive down costs.



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