

# ***Planet Energy Solutions***

**Sustainable Energy Systems**

*Technology for a Sustainable Future*

# What can we do

Half the oil deposits have already been used and the alarming increase in global temperatures means we urgently need to embrace low and zero carbon energy generation alternatives. Planet Energy Solutions offer a wide range of sustainable energy options to home owners, authorities and businesses of every size. Supported by



**Solar Thermal Systems** collect the sun's energy to produce hot water. Flat plate and Vacuum Tube systems are available with different solar characteristics. Whilst unlikely to be the sole source of DHW on average 70% of annual demand can be collected to thermal stores. A typical system should enhance the value of the property, help obtain a high efficiency rating and reduce  $CO_2$  emissions, whilst providing protection against uncertain energy prices and possible shortages in the future.



**Heat Pumps** can produce four times more heat energy than the electrical energy required to operate them. Ground, Air or Water Sourced heat pumps take low temperature heat energy from boreholes, trenches or ambient air and, by refrigerant compression, raise it to produce hot water for storage or heating. Correctly engineered a heat pump system can last for over 40 years, meeting 100% of Heating and DHW requirements and will reduce  $CO_2$  emissions by 30-35%.



**Log & Wood Pellet Boilers** produce hot water for space heating and stored DHW meeting variable loads and operated automatically on a timer. Pellets are manufactured from the waste products of sawmills and other wood processing industries. No chemicals are needed as the natural lignin of the wood serves as a binder ensuring a clean-burn with less than 1% ash. Fully automatic feed and ash handling controls are clean and easy to operate and a low carbon alternative to oil systems.



**Rainwater Harvesting and Recycling** of shower / bath water for use in washing machines and toilet flushing makes so much sense. Clean rainwater can be collected in underground storage tanks and used with very little filtration. Or, via an automated process of settlement, filtering, oxygenation and finally UV light treatment to kill bacteria, grey-water systems, housed at the property ensure final water quality meets EU standards for swimming pools saving energy and water bills.

# about Climate Change ?

technical advice and quality products we represent manufacturers and installers who are members of the appropriate trade association for their technology and have access to a vast pool of experience and development knowledge with which to engineer integrated multi-technology solutions for existing and new build projects.



**Grid connected Wind Generators** provide an extremely effective means of generating electricity. They range from a 400W simple stand-alone scheme to large 1MW units. Locating a turbine is important as power output to wind speed increases by cubic factor and also increases with height. However, turbulence caused by obstructions reduces output and increases wear and tear, so a clear distance of 10 times any obstacle's height is generally advised.



**Solar Photovoltaic (PV)** panels collect the Sun's electromagnetic waves to generate electricity. Direct current (DC) electricity is converted into a 230v alternating current (AC) to be used in the home with surplus being sold to the national grid via two-directional electric meter, no need for batteries. The latest products offer 25 year warranties and with grants of up to 50% now available PV systems are a more attractive microgeneration option than ever.



**Hydro-Generation by Water Wheel** can offer huge electricity generating potential. Depending on the 'fall' and 'volume of flow' a small scale hydro-turbine installation can produce at high efficiency. Unlike Solar or Wind, a Hydro resource is generally available 24/7, increasing in winter when demand is highest. Systems designed to regulate flow and automatic start-on-demand systems can also be offered to take full advantage of the available resource.



**Living Roofs & Passive Solar Lighting** systems are often overlooked as a renewable energy system but are an attractive zero-carbon alternative to conventional cooling and lighting. A green roof can last 60 yrs and provide insulation and evaporative cooling on large area flat roofs. Solar lights mounted into flat or pitched roofs, will bring day light into the centre of a living space reducing the need for artificial lighting, electricity use and CO<sub>2</sub> emissions.

# Planet Energy Solutions

Sustainable energy solutions have been around for many years but increasingly new products and systems are becoming available which involve complex technologies and hence can be easily misunderstood. With an ever growing demand, a wide variety of options available and new products appearing as the market grows, it is important that you can speak to a company that will guide you to the best solution for your applications.

With over 25 years customer facing experience designing, marketing and project managing the installation of thermo-fluid energy systems, from domestic plumbing, through HVAC Building Services and sensitive food & pharmaceutical processing applications, to high pressure steam plant on commercial & industrial heat recovery projects, we have amassed a sound understanding of the need and methods of maximizing energy efficiency and how the traditional and new technologies can be integrated for optimum results.

We work closely with some of the most highly experienced manufacturers and installers of sustainable energy solutions in the country, each a fully accredited member of the appropriate trade association for their individual technology, with access to grants where these are available.

We are constantly studying the market to ensure the latest sustainable products are understood by us and, if appropriate, will seek to include these into our growing portfolio of solutions.

For those seeking advice or study work, we also offer a consultancy service, from a half day pre-design consultation to in-depth feasibility studies. Please contact us or visit the website for further information.



Sustainable Energy Systems Specialists

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Solar Thermal, Photovoltaic, Hydro & Wind Power, Biomass boilers, Heat Pumps, Living roofs, Water Harvesting, Steam & Ind. Fluids systems