

Renewable Energy Information Sheet

Community Groups/‘Not-for-Profit’ Organisations

This information sheet aims to introduce renewable energy technologies, their application, ideas of cost and funding sources to community groups and ‘Not-for-Profit’ organisations (village hall committees, residents associations, PTAs, Housing Associations etc).

Why renewable energy is important

Renewable Energy installations offer clean, long term and in many cases free sources of energy provision for homes and community buildings. Fossil fuels (gas/oil/coal), which dominate heating and electricity generation, are a finite resource and will increasingly have to be imported from potentially unstable regions of the world. This will lead to price rises in the coming years. Fossil fuels also have a negative impact on the environment, being a major contributor to climate change. These negative impacts can be reduced or avoided all together through the use of renewable energy.

This is of importance to community groups and ‘Not-for-Profit’ organisations, for the buildings you manage and commission now will be used by members of your community and organisations for years to come, probably well past your own lifetime. Thought and consideration therefore needs to be given to the future situation you bequeath your successors. Renewable energy should be considered when heating systems require replacement and new buildings are commissioned. You can impact on the future bills, security of supply and environmental impact that your successors have through positive action now. Don’t miss that chance; they’ll thank you for it!!

Options

Solar water heating (SWH)

SWH involves the direct heating of water. It takes the radiation from the sun, present in all forms of daylight, to heat a combination of water and anti-freeze that passes through a solar collector mounted on the roof, which is then pumped to a conventional hot water tank that has an additional heating coil, from which the heat from the sun is passed to the hot water that comes out of the taps. Systems can provide around 60% of annual hot water needs and are always linked to the conventional heating systems for back up. There are over 50,000 systems of this type in the UK and they cost from £1,800 installed, depending on size and type of system selected. They are particularly suitable for swimming pools. The Government’s Clearskies grant scheme currently offers community groups a 50% grant for installed costs for this technology. South Oxfordshire Housing Association have recently installed this technology on several of their houses in Didcot (right).



Small Scale Wind

Small wind turbines are sized at a hub height of 25 metres and under. Turbines need to be mounted on a tower of a height that reduces the blocking effect of the buildings, residential properties and trees. They are noiseless, but a planning application will be required. Windspeeds are the vital factor, with wind speeds of 5m/second and above, at a height of 10m being recommended. Clearskies grants are available for 50% of installed capital costs and a 6kW turbine will cost in the region of £19,000. This will generate approximately 14,000 units of electricity when wind speeds average 5.5m/s at a hub height of 15m. Brill Primary School in Buckinghamshire are planning to install a turbine similar to the one shown on the left.



TV Energy

Solar Photovoltaics (PV)

PV involves generating electricity from the sun's energy that exists in daylight. It works best in direct sunlight, but is also effective under cloudy conditions. Panels or PV integrated products are best located within 40° of south at an angle of between 15-60°. PV systems can be retrofitted onto existing buildings or incorporated into current and new buildings. As an example, a 1.8 kWp system of 10 panels costs approximately £10,800 and will produce about 1,600 units of electricity per annum. Grants of £3,000 or 50% of the total costs (whichever is the least) are currently available to community groups from the DTI for installations under 5kWp. An example of this technology in use can be found at Hailey village hall in West Oxfordshire (right).



Ground source heat pumps (GSHP)

A GSHP system circulates liquid through specially designed coils or loops of pipe buried in the ground. The circulating liquid absorbs heat from the ground, which at a depth of 1.5 metres is a fairly consistent 11-13°C throughout the year. A heat pump, essentially the same circuit as used in a refrigerator but operating in reverse, removes the stored energy and transfers it to a system for heating the building and any hot water requirement. These installations are best coupled to an underfloor heating system, but can be linked to other options. Whilst not strictly renewable, every unit of electrical energy required to power the pump produces three to four units of energy extracted from the ground. The running costs of GSHP systems can be highly competitive against all other fuels and maintenance requirements associated with a conventional boiler are removed. Installation costs depend on the size of building and type of surrounding ground. Clearskies grants are available for up to 50% of capital costs for an installation. This grant programme recently helped fund the GSHP installation that heats the visitor centre at Ewelme, South Oxfordshire (left).

Biomass heating

Woodchips from sustainably managed wood sources, be it local woodland or specifically grown tree crops, are a renewable resource and can be burned in modern, computer controlled boiler plant to provide space and hot water heating in buildings. They work best when there is a consistent heat demand throughout the heating season and a storage area with easy access is required. Boiler plant costs are higher than for fossil fuels, but woodchips are often cheaper than gas, oil and coal. Clearskies grants are available for 50% of installed capital costs and other grants exist when more than one building is involved. TV Bioenergy can supply wood fuel at competitive rates within the Thames Valley. Shortenills Environmental Education Centre (right) is now heated entirely from locally sourced, sustainably managed woodland residues.



Next Steps

If this fact sheet has inspired you and your group to look further at some of the options above, the councils listed below support TV Energy. If your organisation is within the geographical area covered by one of these councils we would be happy to discuss your project and review funding opportunities with you in more detail. **Contact us on 01635 817420 or e-mail info@tvenergy.org or see the website www.tvenergy.org**

Supporting councils include - Aylesbury Vale DC, Wycombe DC, Buckinghamshire CC, Vale of White Horse DC, South Oxfordshire DC, Oxford City Council, Oxfordshire CC, West Berkshire Council, Reading BC, Wokingham BC, Bracknell Forest BC, RBWM, Slough BC, Surrey CC.