


By Tim Pullen

The Types of Renewable Energy

To some extent the inclusion of any particular technology in this area relates to how purist is your view of renewable sources of energy. This page takes as its guiding principle reducing the use of fossil fuels or electricity from the grid. On this basis the following technologies contribute to renewable energy provision.

- **Improved energy usage** - The number one method of saving energy is via better home insulation and energy usage practices.
- **Passive solar energy** - This is usually only effective when considering the original design and construction of a building and involves the orientation of the building, window specification, heat storage and distribution.
- **Active solar water heating** - Solar panels are probably the most common, least expensive, immediately effective means of providing usable energy. This works as an original building inclusion or as an add on.
- **Solar photovoltaic** - PV are probably the most recognised energy generation method but are still relatively expensive. It is an area of technology benefiting from a great deal of research and new, more efficient, lower cost products are beginning to emerge. One to watch
- **Hydro-electricity** - Hydro power is the grand-daddy of power generation, but hydro-electric generation requires both an available source of water and a largish investment to produce large amounts of power. The very best renewable source but not often available.
- **Heat pumps** – Often, wrongly, called Geothermal Heating and involves extracting heat from a ground array or a bore hole using refrigeration type principles. Requires electricity; is good for under-floor heating and may give a 4:1 return for the electric used.

- **Wind Power** - Wind turbines one of the oldest and most common forms of renewable energy. They are very effective in the right location but good locations are not too common.
- **Biomass Heating** - Generally speaking, wood in one form or another although fuels such as compressed straw and compressed miscanthus are becoming more developed and more available. Possibly the best renewable energy in that it is carbon neutral, sustainable and available upon demand.



The first task is to choose between the technologies available to those suitable for your needs. Several approaches at once may be the most profitable solution.