

Renewable energy source options  
Cost and efficiency analysis



<u>Type</u>	<u>Cost / KW generated</u>	<u>Possible Energy output in KWh/year</u>	<u>Notes</u>
Wind Generator	£2500-£5000/KW	7500KWh (based on wind for 10 hrs on 300 days)	A 2.5 KW generator would cost about £12,000 and with an average wind speed of 6m/s would produce enough energy for the house.
Photo voltaic cells	£2,450/KW Based on 7m <sup>2</sup> at £350/m <sup>2</sup> for roof covering. Laminated glass type would be at least twice this	3000KWh (Based on 10hrs output over 300 days)	Would need about 7m <sup>2</sup> to produce 1KW based on typical UK weather conditions
Biomass boiler	+ fuel costs for pellets at 2.5p/KWh (compared to gas or oil which is 2.75p/KWh)	6KW is smallest output model. Used on average for 6hrs day for 200 days = 7200KWh but capacity to produce more if needed	Uses woodchip pellets which would be Carbon Neutral Can get large boilers (up to 15KW output) for shared use
Solar thermal heater	£2500-£4000 for a 4m <sup>2</sup> system	2000KWh	This would meet about 40% of our hot water needs
Ground Source heat pump	£800-£1200/KW		Would need to be a shared project with other houses due to high instillation costs. Holes would need to be sunk 50-100m deep

Data taken from Biomass Energy Centre [www.biomassenergycentre.org.uk](http://www.biomassenergycentre.org.uk)  
Sustainability magazine [www.building.co.uk](http://www.building.co.uk)