Renewable Energy Analysis

The excel spread sheets identify that there is a need to make available sufficient solar panels to produce 46,666kW/annum.

One solar panel of 1m2 will provide 2.64 GJ/annum or 740kW/hr per annum

Therefore to provide 46,666kW/hr per annum there will be a requirement for 64 panels of $1m^2$ area.

We have been advised that there is available 150m² of space available.

The hot water demand per day would be for 44 bedrooms (no of bedrooms for the development) say 1.5 people per bed at 115l per person (CIBSE guidelines for hot water usage) equates to 7590 litres. Normally we would expect to heat this up in say 1.5 hours therefore the kW rating would be 323kW per day.

As an annual usage this calculates to 117,895kW/hrs per annum, therefore the renewable energy available would provide 39% of the energy needed to service the hot water demand.