SMD/2015/0088 Heywood Grange proposed Solar Development - Electrical Generation Figures

Set out below is the calculation for the electricity that could be produced by a 8.36 MW development at Heywood Grange. The important thing to note is they are based on conservative estimates for the system losses and on an estimated irradiance figure. There is a discrepancy with the calculation below and what was set out in the application documents, this was due to an error in not accounting for system loss.

32,188 panels x 260 W 8.36 MW

Location irradiance:

1140 Kwh per sqm per annum - This is taken from one of several databases which map the whole of Europe and include the effect of day and night, summer and winter, north and south, cloud etc etc - clearly this is an average for several years of data and the results are generated by data from weather stations and from satellite data.

System losses:

84% (ie 16% of loss) - losses for wires, shading, panel type, transformers, inverters

kWh per kW peak:

Product of 1140 x 84% is: 958 kWh per kW peak per annum

Production:

Heywood will produce 8,008,880 kWh per annum (8360 x 958)

Household equivalent:

DECC 2013 estimates that the average household electrical consumption is 4065 kWh per annum

Hence Heywood will produce electricity equivalent to the annual electricity use of 1,915 homes

If you would like to discuss further please give me a call.

Regards James

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