

Energy Resources and Policy

Assignment: Solar PV

Using the equations given in the lecture (file solar.pdf) and the weather data provided in the accompanying spreadsheet, determine the optimum annual energy recoverable from a PV panel (i.e. the optimum inclination) located on the roof of a house in Glasgow [55.4°N, 4°W].

Panel power output at STC:	80 W
No. of Panels	10
Orientation:	South
β :	0.004
Operating temperature	Ambient temperature + 20°C

What are the principal technical and economic issues affecting solar PV? How will these, and other issues, limit its future potential?

The report should comprise

- your spreadsheet showing the energy yield for the optimum condition, a graph showing how this yield is affected by alternative tilt angles;
- and a discussion of at least 600 words describing the calculation method you employed and addressing the questions posed above.

External sources of information should be referenced in the usual way. You are reminded of our regulations about plagiarism – by all means refer to published articles on the subject, and quote from them if you wish. **But this article must be your own work.**