Application by Photovolt Development Partners (PVDP) on behalf of SolarFive Ltd for an Order Granting Development Consent for the Botley West Solar Farm project.

Suggested Issue Specific Hearing 2 topic

Date TBD, Issue Specific Hearing 2? (ISH2). Socio-Economics

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The developers quote only one author, Stephen Jarvis to support their claim that the Botley West Solar Farm will have no impact on local house values. Jarvis has produced two documents, one of which was certainly not peer-reviewed[1]. Both documents cover the same field and come to the same conclusion; essentially one is a repeat of parts of the other.

There is an extensive body of literature on the impact of solar installations on house values and these were reviewed in a SolarQ document[2] that was given to the developers during one of the consultation meetings. Its contents were subsequently ignored by the developers who claim in the DCO submission that they "know of no evidence" that house values are impacted by nearby solar farms, citing the Jarvis paper as supporting evidence.

The SolarQ document found a number of examples from America where, indeed, no such impact on house values was found, if anything a slight increase in house values in some cases. Most of these studies were, however, carried out be Estate Agents (realtors) and the results were not analysed scientifically. Re-analysis of some of the results showed the opposite effect – a decrease in house values near to solar farms.

There were also numerous examples where negative impacts on house values were found and these are summarised in Fig. 1 (from Ref. 2)

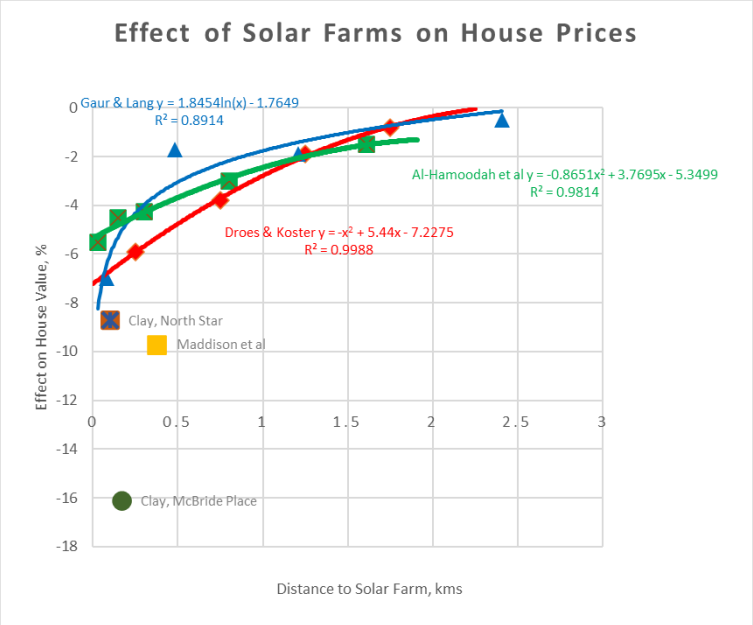

Figure 1. Relationship between the percentage change in house values (y-axis, note negative scale with zero at the top) with distance from solar farms (x-axis in kms) from a number of different studies (details in Ref 2, Annex B). Negative changes indicate a fall in house values. The red symbols and fitted line refer to the Dutch study by Droes and Koster which forms the basis for many of the calculations in the report, Ref 2 here ($y = -x^2 + 5.55x - 7.2275$, $r = 0.9994$). The first two points on the graph are significantly different from 0 but the others are not.

[1] https://eprints.lse.ac.uk/113653/1/Jarvis_the_economic_costs_of_nimbyism_published.pdf
https://snsse.cdn.triggerfish.cloud/uploads/2022/04/sns-research-brief-84-is-nimbyism-standing-in-the-way-of-the-clean-energy-transition-1.pdf
[2] https://www.solarq.org/propertyanalysis

The SolarQ analysis took the significant results of Droes and Koster (the red symbols and line on Fig. 1) and showed that the impact of such an effect on the 11,000 houses within 1.5 kms of Botley West would be an immediate fall in value of £153 million, or about 3.1% of the total value (of *c*. £5 billion) of all houses within that range of BWSF. A detached house within 0.1kms of Botley West is likely to suffer a fall in value in excess of £40,000. The same house 1.5kms away is likely to experience a fall in value of less than £9,000.

Houses immediately affected by the BWSF installation are also unlikely to see their values rise in future as much as those of houses unaffected by BWSF (i.e. at distances of greater than *c*. 2kms); the amount of this effect is, however, difficult to estimate at present.

Droes and Koster's study was based on data from The Netherlands which has almost exactly the same population density as does England. Maddison et al subsequently showed a significant negative effect of solar installations on the value of houses South of solar farms in the UK, attributing this to glint and/or glare. There was also a negative effect on the value of houses North of solar farms but this was not significant, although the authors felt it might become significant given more data.

So why did Stephen Jarvis conclude there is no effect of solar farms on house values? There are several possible reasons but one is that he came to his solar analysis after looking at the effect of wind turbines on house values. This effect is more obvious and extends for greater distances than does any solar effect. Since, in the analyses, house values are considered in 'bins' at different distances from the renewable installation, the larger bins used in the wind analysis might have missed any effects when applied to solar farms. The solar analysis should have been more fine-grained than in fact it was (a point emphasised by Maddison et al).

Another reason for not finding any significant effect might have been that Jarvis used a postcode level analysis and assumed all the houses within the same postcode had more or less the same value. This may be correct for urban areas where postcodes are relatively small in size but would not be correct for rural areas with larger postcode areas and very variable house values. In such cases any effect of solar farms on house values may have been hidden by the 'noise' of variable house values within single post-codes. This is not to say there is no effect but instead that a much more fine-grained approach is needed, ideally one where the values of individual houses are monitored over time; does the erection of a solar farm nearby affect those values through time?

Whatever is the reason, absence of evidence in this case is not evidence of absence. More fine-grained analysis <u>does</u> reveal an effect of solar installations on house values and this effect is larger the larger the solar installation and the nearer any house is to it.

This externality of the BWSF proposal should be acknowledged by the developer and cannot simply be ignored.

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