

Planning Inspectorate Inquiry.

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

Submission for October 4th 2026 deadline.

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The capital costs of NSIP-scale ground-mounted solar farms in the UK. Why is Botley West so different?

Introduction

Various statements have been made about the installed capacity of the Botley West Solar Farm (BWSF), summarised in Stop Botley West's (SBW's) response in **C2-161** to the applicant's **C1-087**, which in turn was a reply to the Secretary of State's request for information letter of 14 April 2026 (revised on 20 and 28 April 2026). In responding to para. 69, a question about the economic viability of the proposal, the applicant claimed (in **C1-087**) that the minimum viable size for BWSF was 935MWp, based on the results of its LCOE economic analysis, the details of which were not given¹.

Stop Botley West's response to this conclusion included information from many other NSIP-scale solar farm proposals in England, all of which are smaller – and in some cases considerably smaller – than the applicant's 985MWp minimum. If other developers can make smaller installations viable, why can't BWSF's developer?

The present document examines in more detail the applicant's claim against a background of economic information gleaned from other NSIP scale solar farm proposals in England.

Briefly, in what way is BWSF so different from all the others?

Background information on large area solar farms in England

Applications for large-area, NSIP-scale solar installations in England require a Funding Statement giving the economic background of the applicant and an estimate of the costs of the installation. In many cases, the overall costs include the costs of Compulsory Acquisition (CA) of the freehold of the land. CA, if it occurs at all, will not be carried out until after DCO approval, so we have no idea of precisely how much solar farmland might be lost permanently to agriculture until then.

In some cases, the applicants also list separately the estimated costs of the CA of the land so we can investigate just how much is being paid for 'solar land'.

There are over 80 NSIP-scale solar installations in the UK at various developmental stages. Those going through the Welsh and Scottish systems are not obliged to provide any economic costings and, of the remainder (mostly in England), only those accepted for DCO consideration have publicly available 'Funding Statement' documents.

¹ Despite the 935MWp capacity option being the 'without prejudice' final offer made by the applicant in **C1-087**, for example in its **Conclusion** of para. 69; *"The current planning position of 935 MWp, as submitted with this response to the Secretary of State, results from applying a maximum 250 m buffer to all residential dwellinghouses (save where a lesser buffer has been agreed, as set out in the draft Requirement) is just about economically viable, assuming availability of debt financing at favorable conditions."*, this option was ignored in the later 16th July submissions by the applicant, and replaced by the higher capacity option of 1100MWp.

The citizen science group SolarQ has looked at all the Funding Statements currently available for this analysis, in order to answer three questions.

1. What is the overall cost of ground-mounted solar installations?

In NSIP applications, developers are required to estimate total costs of the installation but do not need to estimate any Operation and Maintenance costs during the lifetime of the project. The relationship between estimated capital costs (in £millions) and the installation size (in MWp) of NSIP-scale solar installations is shown in Figure 1. Results and regression lines for all installations other than BWSF are shown as blue dots and lines in the figure. Predictably, there is more or less direct scaling; the larger the installation, the greater the capital cost.

The unconstrained regression line in Fig. 1 (the solid line) almost goes through the origin (intercept of £66.7 million) with a slope (gradient) of 1.069, while the dotted line forced to go through the origin (on the assumption that an installation of 0MWp should cost nothing) has a gradient of 1.196².

The slope of the line(s) in Figure 1 reflects the marginal costs of solar installations, that is the additional cost in £millions of installing one additional megawatt of power (MWp). Figure 1 suggests the marginal cost of solar is about £1.07 to £1.2 million per MWp – in line with industry estimates.

Thus, each of the solar farms shown in blue in Fig. 1 has very low basic infrastructure costs and industry-standard marginal costs.

The BWSF data are indicated separately by the red dots and the red line to the right of Fig. 1. These data come from the Table in para. 68 of PVDP's response to the SoS's questions of 6th June (and shown in SBW's response to that para.). It should be emphasised that whereas each of the blue dots comes from a different solar installation, all the red dots come from the applicant exploring a range of BWSF installation capacities. The red dots are therefore not independently derived.

Two BWSF data-points are highlighted by the callouts in Fig. 1. The first refers to a commonly quoted size of BWSF (1307MWp, with a cost estimated in June 2026 which is lower than the November 2024 estimate of £820 million), and the second highlights the 935MWp installation that PVDP claimed in **C1-087** is the minimum viable size for BWSF.

Three things stand out here:

- i) the costs for all of the BWSF options fall below – and for larger capacities very far below – the expectations based on all other solar farms shown in blue. In other words, BWSF seems ridiculously 'cheap' for its size, compared with other large solar installations;
- ii) the marginal cost of the BWSF examples is only £0.24 million per additional MWp, or about one quarter of the c. £1+ million per additional MWp of all the other solar farms. How can one developer imagine that adding 1MWp of solar panels to a solar installation will cost only £240,000, while all the others calculate it will cost at least £1,000,000?
- iii) the intercept of the red line on the y-axis – at c. £377 million - indicates a very large 'fixed cost' for BWSF i.e. the basic cost of the installation before any solar panels are added. This too seems unrealistic in comparison with the others. It means that whereas a large BWSF would be ridiculously cheap compared with other solar farms, a small BWSF would be much more expensive. The point where the costs for all the other solar installations and those for BWSF are equal is where the red and blue lines cross in Fig. 1, at an installation size of about 370MWp.

² A positive intercept on the y-axis might be expected on grounds there are inescapable infrastructure costs before ever any solar panels are added. Figure 1 suggests that these are minimal compared with the overall costs for all but the smallest solar installations.

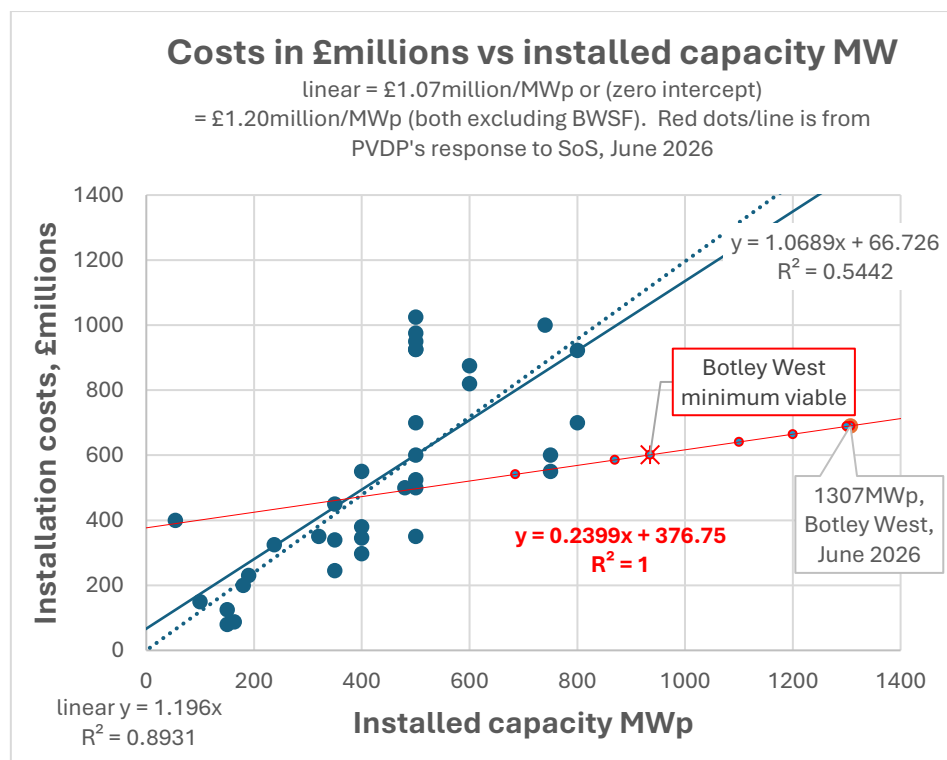


Figure 1. Installation costs of NSIP-scale solar farms in England vs the installed capacity in MWp. Blue dots and lines refer to all NSIPs except Botley West, which is shown separately by the red dots and line. The red dots are the various installation sizes considered for BWSF and referred to in para.68 of its response to the SoS questions of June 2026.

It might be suggested that the BWSF data should not be extrapolated back in this way – a fuller range of data might show the BWSF line bending towards the pattern shown by the blue dots. There is, however, no sign of non-linearity in the BWSF data, so this seems unlikely.

Solar installations are 'front-loaded', with all capital funding required before any electricity is generated, so capital costs indicate just how attractive any particular solar installation might be to any future purchaser. Setting them too high will deter investors; setting them too low might attract innocent investors who are later caught out by costs in excess of the original estimates.

In more than one application reviewed here the developers admit to estimating costs on the basis of a ball-park figure of 'about £1million per installed MWp'; in other words, an industry estimate rather than a forensic figure based on each location and situation. There is no reason to believe that PVDP did anything different for BWSF, so the question remains as to why PVDP imagined such high fixed costs for BWSF? This was never picked up during the formal examination, nor was any explanation ever offered by the applicant. It is, of course, the high fixed cost that essentially determines what the applicant claims is the minimum viable size for BWSF.

2. How much might developers pay for the freehold of solar land?

The relationship between the costs of Compulsory Acquisition of the freehold of solar farmland and the area of the solar installation is shown in Figure 2. Only a few developers state the land acquisition costs separately, so there are fewer points in Fig. 2 than in Fig. 1.

The straight line forced through the origin ($x=0$, $y=0$) indicates a cost of £22,100 per hectare, or £8,944 per acre of land. This is on the low side for agricultural land sold for farming, especially in the South of the country.

The regression calculation in Fig. 2 includes the data for BWSF, the point for which is a long way from the regression line itself. The applicant would be paying over the odds for BWSF land, at £48,700 per hectare (£19,709/acre), more than twice the average figure indicated by the line in Fig. 2. This anomaly again should have been explained by the applicant.

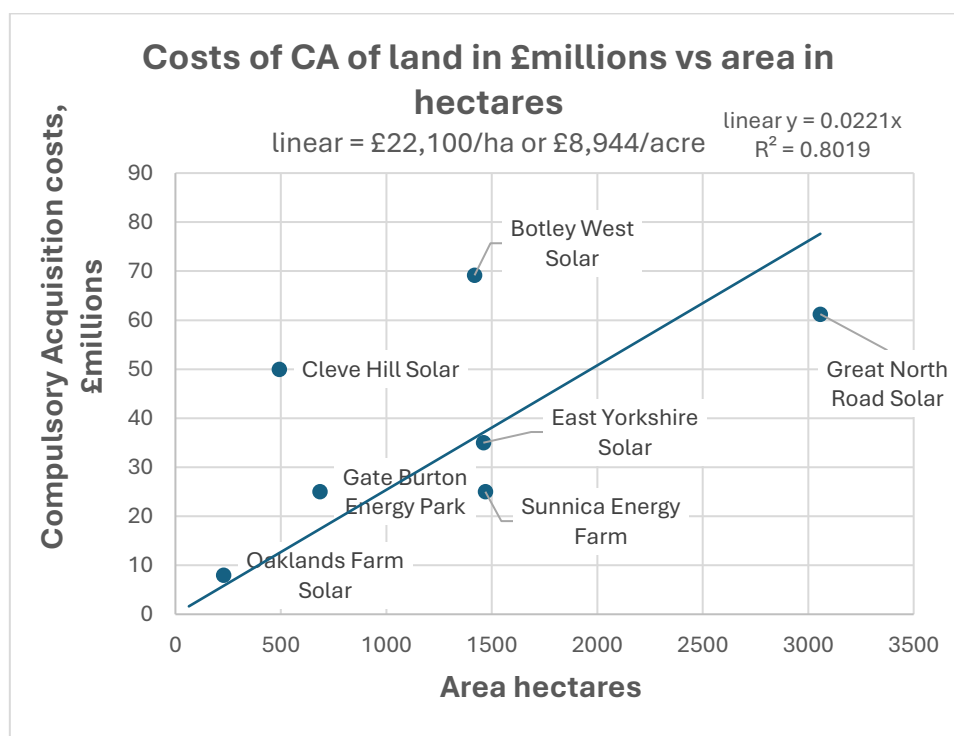


Figure 2. Relationship between the estimated costs for Compulsory Acquisition of land for solar farms, and the area of those farms.

3. What is the cost of land purchase as a percentage of the overall costs of solar installations?

Figure 3 shows the relationship between the costs for Compulsory Acquisition (CA) of the land for solar farms and the total installation costs (that usually include the CA costs).

The regression line through these data (slope of 0.071) indicates that land costs are about 7.1% of total installation costs.

Thus, not only for any developer but also for any potential purchaser of a successful DCO application, the freehold of solar installation land can be acquired for a relatively small increase in total costs. Land ownership must make any solar installation attractive to investors since it is the only valuable collateral for the large loans of £hundreds of millions involved in solar farm construction. The example of Cleve Hill shows that those investing significant amounts of cash to build out the installation required freehold ownership of the land, acquired through the CA powers granted by the NSIP DCO. Cleve Hill is now owned outright by one of those large investors. It may be the first of many solar installations to follow this route. It is disingenuous to claim that such investors have any interest at all in Net Zero, rather than in the corporate 'bottom line'.

The future fate of solar land is uncertain. It appears that Natural England (NE) expects solar developers to seek re-powering their installations at the end of the DCO period (re-powering and/or life-extension

are allowed in the recently updated NPPF). In other words, land once developed as a solar installation will remain as such in perpetuity.

Alternatively, if a solar installation is de-commissioned at the end of the DCO period, NE believes that land which was once arable (i.e. before the solar installation) will be re-classified as 'grassland' (since it will probably have spent the previous several decades under grass). Thus, de-commissioned solar land will probably never grow food again.

Finally, at some future point in time, solar farmland will almost certainly be re-classified as 'previously developed', becoming much more valuable as potential building land.

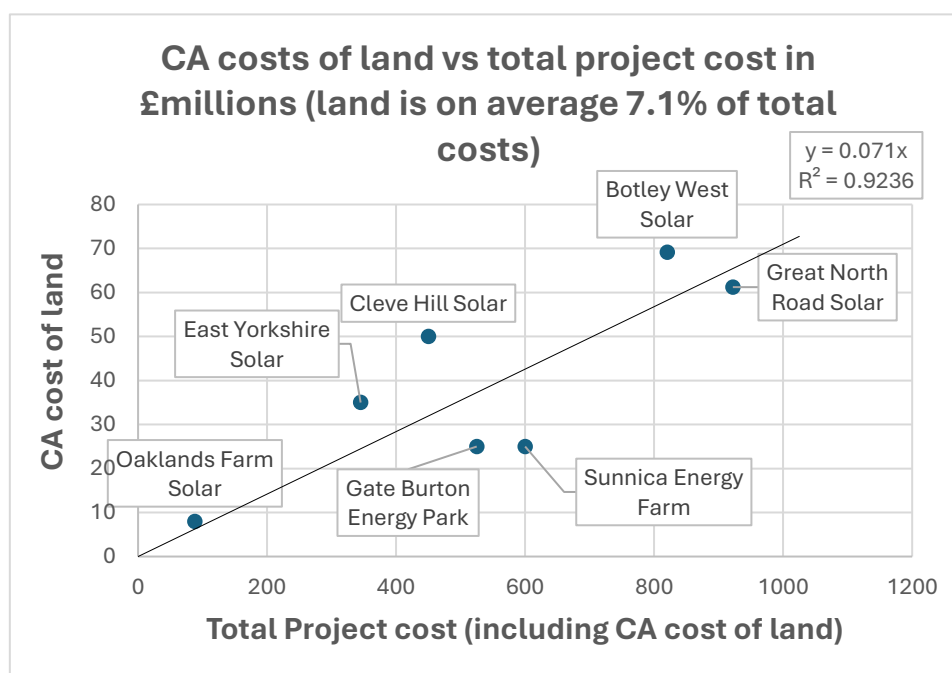


Figure 3. Relationship between Compulsory Acquisition costs (when given separately) and total installation costs of NSIP-scale solar installations. Figures are in £millions.

Conclusions

- At its present size, the installation costs of BWSF are about half those expected on the basis of the (extrapolated) costs of all other NSIP-scale solar installations in England (Fig. 1). But BWSF's high fixed costs mean that reducing its size to below c. 370MWp makes it very uneconomic compared with other, small solar installations. It is still not clear why BWSF has the high fixed costs that result in these outcomes.
- Most developers would pay only about £8,900 per acre to acquire the freehold of solar installation land should they choose to exercise the powers of Compulsory Acquisition that virtually all of them request in their DCO applications. PVDP/SolarFive would be paying over the odds, £19,700/acre – more than twice as much as the average – for Blenheim land, but still a bargain for potential future building land in Oxfordshire (i.e. after eventual de-commissioning, if it ever occurs).
- Costs of Compulsory Acquisition of solar farmland are a relatively small fraction (c. 7%) of the total costs of solar installations (Fig. 3). The very high land costs of BWSF (Fig. 2) coupled with the low estimated cost of the total installation compared with other NSIP-scale solar proposals (Fig. 1) balance each other out so that the cost of land as a percentage of the total cost of BWSF is similar to that for other large-area solar installations (Fig. 3). Ownership of land must make solar installations an attractive investment proposition.

- A number of features of the applicant's proposal for BWSF (overall size, buffer widths etc.) hinge on the applicant's claim of a large minimum viable size of 985MWp. This claim has not been fully explained by the applicant and cannot be justified on the basis of the proposals from all other NSIP-scale solar proposals for which we can find data within the PINS system. As pointed out above, the applicant seems now to have abandoned its without prejudice offer of a 985MWp installation (in **C1-087**) and appears to propose an 1100MWp installation in its 16th July 2026 submissions (e.g. in **C1-094**). This is still outside the range requested in the most recent draft DCO (*i.e.* 1200-1375MWp in **C1-097**, July 2026), a range that has remained unchanged in all 11 revisions of the dDCO since November 2024.

Too many questions remain unanswered in the applicant's economic case for BWSF.

I ask the Secretary of State to refuse this proposal outright. Applications should not be accepted when their various claims are neither explained nor justified.

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