

15th July 2026

Re: Botley West Solar

To the Planning Inspectorate,

Dear Sirs,

Here are some submissions on the proposed Solar Power Station, for your kind consideration.

RVAA

The RVAA was not carried out properly. I will try to illustrate this by using my own personal experience.

For the purposes of their RVAA report on properties in Tumbledown, the developers have lumped Lake View House, Heidersbach and Tumbledown House together. They incorrectly refer to the latter as 'Tumbledowns' as this was written on the map next to the property and, not having visited the area, they erroneously assumed that this was the name of the property.

The other three properties in Tumbledown, Weatherden, Springbank and Little Garth, were ignored. The impact on these properties is less but they do have limited views of the valley and so, as part of any legitimate survey, should have been visited and assessed.

Despite inviting concerned parties to do so, we have never been visited by anyone from, or on behalf of, PVDP. They surveyed the visual amenity of the properties solely using Google maps and Google Street View.

I was astounded by the 'Residential Visual Amenity Document' document which the developers provided.

As evidence, they had taken two Google Street View photographs purporting to show 'Lake View House', 'Heidersbach' and 'Tumbledown House' taken from the B4017. They show nothing but the entrances to the long driveways which lead to the houses. Another equally pointless photograph was downloaded, from the B4017 beside Jumpers Farm looking southwards.

I wonder why their 'photographic evidence' was limited to these pointless photographs, please compare to the photographic evidence that I will give under.

Lake View House and Heidersbach were designed, orientated and positioned by the architects specifically in order to maximize their stunning views over the Farmor valley. In [REDACTED] Heidersbach', apart from bathrooms, only two minor rooms do not have windows that face the valley in order to take full advantage of the views.

I have inserted six photos below, which I took from the point where the two properties meet. The one follows on from the other left to right. These show indisputably that, just about every square meter of the proposed project can be seen all the way from Farmor to Denman's copse. Standing at this point, the photos show the proposed development from 305° (NW) to 051° (NE). They subtend an angle of 106° degrees. Human binocular Field of Vision, the basis for stereopsis, covers a range of vision of 114° degrees (horizontally). When looking North, you can plainly see that the proposed development will stretch right across the width of our field of view, It could hardly be more egregious. but despite this the would-be developers make the outrageous claim that *'The small part of the Project visible would not form a prominent feature in the view.'*

The photos clearly show that due to our relative height above the panels, it would be completely impossible to hide them from our view by planting hedges or trees in front of the security fencing surrounding the development. This is true for the view of anyone on higher ground. But the developers ignored this.

The northern boundary of Heidersbach is a traditional four foot garden hedge. [REDACTED] indeed, have some fine trees on some parts of the southern boundary, but the lower branches have been removed and doctored to frame and enhance [REDACTED] excellent view of the valley floor. Knight Frank in a survey of the property some years ago highlighted its 'wonderful views'

The trees are reaching the ends of their lives and several of the willows have had to be felled in the past couple of years. All of them will be gone for reasons of safety before very long. The pertinent trees are all deciduous and so are bare of leaves for much of the year.

Lake View House is completely open towards the North.

The minimum distance from the boundary fence of Heidersbach / Lake View House to the perimeter fence of the power station is about 147m and not 240m as claimed in their 'survey'.

The survey was 'desk based' solely using maps and Google Street View by agents who had never seen the area or visited any of the properties, despite our invitations to do so - or walked the scenic public paths and trails, which descend into the valley.







The conclusion of their RVAA report for both Year 1 and 15 is: Low Impact, Minor significance. Conclusion: Not significant.

I hope that this will convince you that the RVAA report is seriously flawed and must be completely rejected.

Receptors of Glint and Glare

It is clear from the terrain and the photos shown above that the Tumbledown properties would clearly be primary receptors of glint and glare from the proposed panels and, that, given the topography, no shielding from this hazard would be possible.

Their conclusion (Page 90) was:- S45 – S47: Solar reflections geometrically possible for **less** than 3 months per year and **less** than 60 minutes on any given day : Existing and/or proposed vegetation is predicted to significantly obstruct views of reflecting panels: Relevant Factors - N/A: Impact classification - No Impact: No mitigation recommended.

Please note here their use of the phrase 'geometrically possible'. This leads the reader to suppose that it is actually rare and unlikely but possible none the less. Nothing could be further from the truth. The rules of physics and trigonometry governing the reflection of light are well proven and immutable. What should have been said is that glint and glare **will definitely** affect this property for up to three months of the year and up to 60 minutes per day.

The assessment was carried out by Pager Power Ltd a very small company based in Suffolk

Their website is excellent as is their web presence. Their documents have pride of place in the search engines.

In their website they claim that '*Pager Power has been helping developers overcome constraints for over 20 years*'. They are certainly not neutral observers. They are employed by developers and energy companies to produce surveys that can help in planning applications by showing that the developments present little risk or nuisance to the public.

The first thing which struck me was the fact that '*The assessment undertaken by Pager Power was desk based. Pager Power uses Google Earth and Google Street View to collect baseline information regarding the receptors.*' No one from their company ever visits the areas they are surveying.

By this method they claim to be able to produce a glint and glare survey within six days and presumably at a competitive price.

They are helped in their task by two main things. There are very few regulations or officially recognised parameters regarding glint and glare, so, one can simply make up one's own and authoritatively claim them to be an industry standard 'based on our own experience' – an oft used phrase.

The other great advantage is that by using boilerplate word processing and technical software such as ForgeSolar or other SGHAT-derived technology, one can quickly input map co-ordinates and churn out very long, impressive documents in a very short space of time. The hard-pressed planners simply do not have enough time or staff to wade through kilos of pdf documents. So, they have to rely on the rose-tinted executive summary, without delving into the more arcane points of technical information.

Elsewhere Pager Power states that ‘There are currently no documented acceptable limits for Glint and Glare effects.’ and ‘The measured intensity of a reflection from solar panels can vary from 2% to 30% depending on the angle of incidence.’

They give no details of the reflective values of the specific panels to be used in this case nor of their provenance. They disregard the glint and glare caused by the frames and support structures of the panels.

What they do not mention at all is that when a solar panel is covered with frost, dew or precipitation, which are all too common in England, the reflective value and qualities can be quite different from those produced in the manufacturer's laboratory.

There is a large difference between what Pager Power thinks is a reasonable amount of glint and glare to be suffered by the populace and what the German Government thinks is reasonable.

In Germany, the Light-Guideline (Licht-Leitlinie) issued by the Ministry of Environment defines glare to be a “**significant nuisance**” at durations longer than **30** minutes per day **and /or 30** hours per year.

Pager Power must know this definition well and could have used it but by so doing would have caused a considerable change in the outcome of their survey. So, they used the format, slipped in their own one kilometer limit, changed the yearly duration and the significance of the glare duration.

The definition which they arrived at ‘from their own experience’ is therefore:-

‘Where effects occur for less than three months per year and less than 60 minutes on any given day, or the closest reflecting panel is over 1km from the dwelling, the impact significance is low, and mitigation is not recommended.’

So what Pager Power would now have us believe is that glint and glare of a ‘**low significance**,’ is of over twice the duration of that which the German Ministry of the Environment thinks is a ‘**significant nuisance**’. That is: **significant nuisance x 2 = low significance**.

With regard to the 1km limitation, I would point out that Clifford K. Ho and Siri S. Khalsa of the US Federal Government’s Sandia laboratories state that a normal flat glass mirror can cause temporary blindness up to a range of 8.6km. Please note that temporary blindness is an injury to the eye.

Dwellings on Tumbledown are receptors of glint and glare which cannot be avoided by shielding because of the topography

The height of the eye relative to that of the panels is most important. The occupants of **all** of the dwellings in this study are assumed to have an eye level of 1.8m above the ground. This is despite their own advice elsewhere that:-

‘For dwellings, a recommended additional height of 1.8 meters above ground level should be added to account for eye level on the ground floor. A height of 3.8 meters is recommended for a first floor. Additional heights should be considered where a receptor is higher than a first floor.’

The obvious point in this statement is that the difference between the eye levels on the ground

and first floor is 2m (3.8m– 1.8m). If we deduct 0.25m for the floor thickness, then the ceiling height of the ground floor would have to be only 1.75 meters, which would make the dwellings uninhabitable.

I live in a normal house. My eye level is 1.65 the ground floor is .80 above the front lawn.

(Because of the sloping terrain this is about three meters above the fields on the other side of the hedge but we will ignore this for the moment.)

So, if I ignore our particular terrain, my ground floor eye level would 2.45m. The ceiling height is a normal 2.55 with a floor thickness of .25 making my eye level upstairs 5.25 m. This is what it should be in a normal house.

Of course if we were to remain sitting on the ground floor all the time and only walked on our knees, we could avoid the glint and glare coming through the windows at 1.80m above ground level. But otherwise an eye level of 1.80m above the ground in the average house would only be achieved if the damp proof course were well below ground level.

Roads - B4017

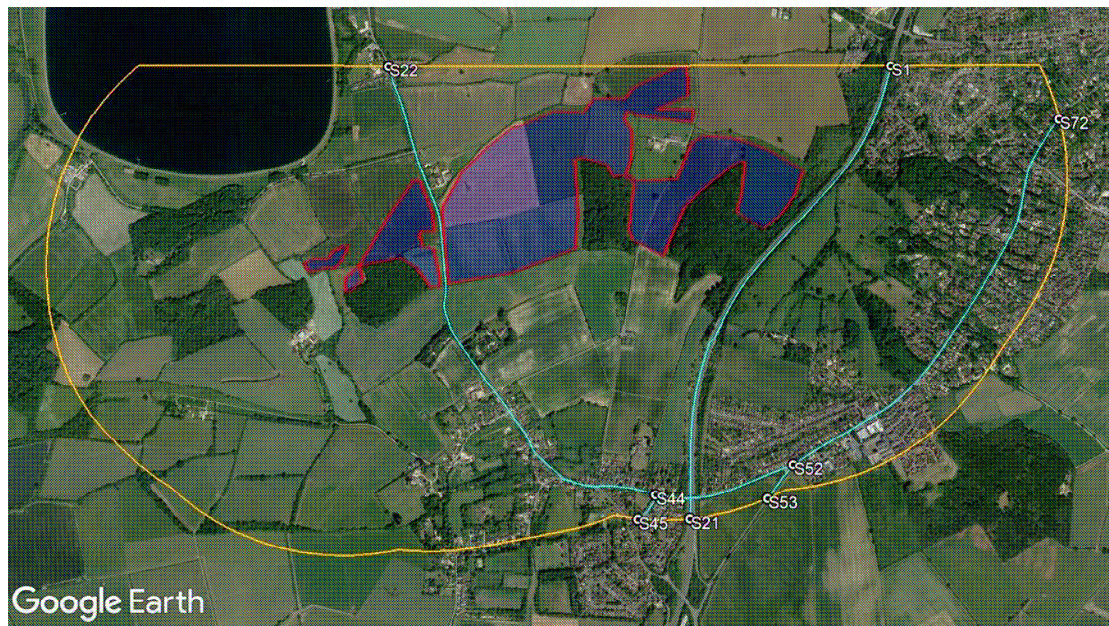
It is clear also that the B4017, where it descends steeply down into the Farmor Valley and then across the floor, through a sea of panels on both side would be exposed to glint and glare. (Blue line S22 to S72)

Please see the photos under:-

Yet they report:-

*Solar reflections geometrically possible from **outside** a road user's primary field-of-view
Existing and/or proposed vegetation is predicted to significantly obstruct views of reflecting panels : No impact, no mitigation necessary.*

I would argue that drivers heads are not clamped in a forward position. They turn to look to the sides of road as good drivers should and also to enjoy the scenery. A flash of light can cause momentary blindness even if it does not come through the windscreen from straight ahead.



The photos underneath show the B4017 and how little the existing vegetation protects the drivers of a selection of vehicles from being dazzled. What is not shown in the photographs is that there are large gaps in the hedges. The hedges are not continuous and have openings into the fields.







The eye height which the surveyor uses throughout his desk based study for glint and glare on the roads is 1.5m. I suspect that this may be the average height of the camera on the Google street view cars.

This may be perfectly fine for cars, but woefully inadequate for trucks or buses. I have just measured my own eye-height when I sit on my bicycle. It is 1.77m and I am less than average height.

The 'survey' does not seem to have considered the nuisance to cyclists, motorcyclists, truck and bus drivers or the upstairs passengers on the double-decker buses that use this road. Robert Bartlett in 'Comparative Geometrics' gives the average eye-heights for truck drivers as 2.33m to 3.00m - see photos above.

The developer is quite blasé about screening and ignores the simple fact that by erecting a screen on the side of the road, one is depriving the passengers in the car of the panoramic views of the countryside. If one is commuting on these roads, the removal of one's view would become quite tedious.

Footpaths

The walking trail which descends from Cumnor passing by Denman's Copse, does so steeply and irregularly. The panels would be tilted upwards facing southwards towards the walls of a long valley which rises very steeply. This must be about the worst topography possible for glint and glare. It is clear that the higher ground will be peppered with glint and glare from each enormous panel as the sun makes it's way across the sky. This is one of the reasons why panels should be placed on plateaux and not in valleys.

The height of the observers eye is all important when in the vicinity of solar panels. Oxfordshire County Council Position Statement states that :-

‘If the site is in proximity to routes used by equestrians, applicants should consider the potential impact of reflected glint or glare. For safety reasons, solar arrays should be of a type or mitigation measures should be put in place to prevent or reduce glint or glare at horse or rider eye level.’

The eye-level of any walker descending the trail in close proximity to the panels will be much higher relative to the array of solar panels before him than that of any horse rider. This cannot be fully appreciated unless you are familiar with walking this part of the Greenbelt Way and the surveyors have never even seen it.

I would suggest that the Pager Power staff are not ophthalmologists. They do not appreciate that a pedestrian should never be put in a position where he or she has to protect him or herself from glare and unexpected flashes of the sun coming from uncommon angles

For some of us, such glint and glare can be most injurious. I quote from ‘Glare's Causes, Consequences, and Clinical Challenges After a Century of Ophthalmic Study’ by Mainster and Turner.

‘Discomfort glare is caused by illumination that is too intense or variable for a particular person, place, and time. It is a normal response to abnormal illumination. Discomfort glare threshold (photosensitivity) varies considerably between individuals. Discomfort can be manifested as annoyance, squinting, distraction, blinking, tearing, and light aversion.

Dazzling glare is an extreme form of discomfort glare associated with visual disability. It occurs in situations where high retinal illuminances are spread across the retina such as in snow skiing, viewing sunlit beaches, and driving toward the low lying sun. Searchlights and laser dazzling devices also cause it. Dazzle threshold is decreased in certain thalamic disorders and other conditions that increase sensitivity to visual or non-visual photoreception.’

I, like so many others, very often walk from Cumnor down past Denman’s Copse and over to the Thames. I always meet many happy people on the way. Some just walk their dogs, some want to keep fit with daily exercise, some are hikers, walking long distances from far off. In summer there are very large groups of young people seeking to achieve their ‘Duke of Edinburgh Awards’. They walk down the Thames Path and then join the Greenbelt Way at Farmor. It is ridiculous to ignore the nuisance and indeed the danger of glint and glare on ramblers and walkers. The rambler, intent on leisure, will be much closer to the source of the reflected sunlight than drivers.

One thing is for sure that very few ramblers will choose to walk through a dystopian, electromagnetic, landscape of humming panels, surrounded by a two meter fence with cameras and lights.

A most critical problem is the angle of tilt

Solar panels face due South and are tilted up at an angle in order to catch as much of the sunlight as possible. This angle is critical as it governs how much energy the panel will produce and, of course, how the light will be reflected.

The angle of tilt of the panel to the horizon is absolutely critical in determining how the sun is reflected. The only angle of tilt entered into the SGHAT- derived software

for this survey was 15° . This is the indicative angle given by the developers but is much less than that shown in all the photographs.

15° is a very low angle of tilt for a solar panel at our latitude of 51.75° . If higher angles of tilt were inputted into the computer, the results would be entirely different. Lower angles of tilt produce less glint and glare.

Solar panels capture sunlight most effectively when the sun strikes the surface perpendicularly.

At a tilt angle of 15° that would require the sun to be at an elevation of 75° .

At our latitude of 51.75° the maximum possible altitude of the sun to be above the horizon at noon is $90 - (51.75 - 23.5) = 61.75^\circ$ the minimum is $90 - (51.75 + 23.5) = 14.5^\circ$. These extremes will occur at the solstices. The minimum at the edge of the solar window at winter solstice would be about 10.4° . The sun will never reach 75° .

At normal angles of tilt, the sun will pass through the panel's horizontal perpendicular plane on its upward trajectory some time before the zenith and then again on the way back down.

Profilesolar.com, using 40 years of NASA solar and meteorological data, suggests that an all year round setting of 44° would be optimal for Oxford. If the tilt of the panels were adjusted seasonally, they advise settings of : 44° in Spring, 35° in summer, 55° in Autumn and 65° in Winter.

For large arrays of panels, in order to achieve a higher ground cover ratio and to avoid shadows falling on the row 'behind', often the optimum angle of tilt has to be reduced, but 15° would be exceptionally low, and as precise details of the hardware to be used, its manufacturer and its provenance are not available at this early stage, I would assume that the angle of tilt is an indicative one.

This project, if approved, is promised to be around for a minimum of 40 years but it will probably be much longer. During this time it is certain that other angles of fixed tilt, and probably, at some stage, seasonal angles of tilt would be used.

The actual angle of tilt would also depend on which contractor actually builds the project.

So, whoever ends up actually building the project or whoever owns the project in the years to come, would probably use the setting which gives the greatest profit. I would guess that this would be a higher angle of tilt and therefore much higher levels of glint and glare and different angles of reflection, which would completely invalidate the computer based results used in this report.

The purpose of the report is:-

Pager Power has been retained to assess the possible effects of glint and glare from a fixed ground-mounted solar photovoltaic development, located near Oxford, Oxfordshire, UK. This assessment pertains to the potential impact upon road safety, residential amenity, railway infrastructure and operations, and aviation activity associated with Oxford Airport, Oaklands

Airfield, Enstone Airfield, RAF Weston-on-the-Green, RAF Abingdon, and RAF Brize Norton.

As only one possible angle of tilt has been considered, if any larger angle of tilt than 15° is used for the solar panels now, or at any time during the lifetime of the power station, the computer derived glint and glare calculations would no longer be applicable and all of the above would be at risk. We all have a duty of care to ensure that this does not happen. A full range of possible angles must be explored.

Battery Storage

The solar power station will require a large sub station to be built near Farmor village. There will be Lithium-ion batteries positioned there and also in a larger battery, power storage, facility in an undisclosed location.

As we know, large Lithium-ion batteries are a serious hazard to the health of those who live anywhere nearby if they catch fire. There have been numerous incidents of spontaneous combustion of these types of battery. Lithium-ion battery fires generate intense heat and considerable amounts of gas and smoke. Large amounts of hydrogen fluoride (HF) may be generated, ranging between 20 and 200 mg/Wh of nominal battery energy capacity. In addition, 15–22 mg/Wh of another potentially toxic gas, phosphoryl fluoride (POF₃), has been measured in some fire tests. Fluoride gas emission poses a most serious toxic threat. Large capacity Li-ion batteries of this nature should only be allowed in areas far from households.

There can have been no serious risk assessment. In the event of battery fires, owing to the topography of the region, all of those living in the Farmoor Valley will be in grave danger of the inhalation of highly toxic gasses. There is a child nursery only a few hundred metres from one possible site of the proposed sub-station. The westerly wind would also blow the toxic gasses along the valley to densely populated Botley and Oxford. I am sure you will agree that storing such batteries in a valley, near a village is not a good idea.

This solar power station will be the largest, anywhere in the World to be sited so close to human habitation.

Greenbelt

Those of us who live near Oxford are very grateful to those farsighted planners who from 1958 to the 1990 s initiated and implemented the green belt. It is irreplaceable once it is lost, it is gone forever.

The Oxford County Council position statement recognises this and states that any such development would have to demonstrate *very special circumstances*. There are none in this case. Such a solar power set-up can be situated anywhere in the country, preferably on brownfield sites. There is no scarcity of more suitable locations.

Three quarters of this power station will be on the green belt. It would be a terrible thing to rob future generations of the Oxford Green Belt. Green Belts were the brainchild of enlightened town and country planners, they must not be thrown away. Our children will need the open spaces and wildlife and nature even more than we do

The developers talk vaguely about planting hedges but give no detail. They say nothing about the age-old hedgerows which will be removed. Some of them date from Medieval times. The visual impact of the solar panels in our area certainly cannot be hidden by any hedge.

The Greenbelt Way, and many other trails are much used by hikers, joggers, dog walkers, locals 'just going for a walk' will vanish. It is not only the older generation which will be affected. While walking, I often meet groups of young people seeking their 'Duke of Edinburgh award'.

The age-old paths will be destroyed. The developers PR people say they will be replaced by new ones. These will require the rambler to walk in a dystopian landscape between eight feet high security fences, which surround the sea of solar panels.

Loss of Good Agricultural Land

As well as being in the green belt, almost all of the proposed solar power station will be on good, arable, productive farming land. So under section 27 of the Oxford position document, the developer of the power station would have to show that the use of agricultural land is necessary. This makes sense of course as, by losing arable land, the agricultural produce and the resultant carbon sequestration is lost. The lost farm produce will then have to be imported, all at great cost to the environment. Latest studies show that, given these circumstances, solar energy with its high initial environmental cost, could never achieve anywhere near net zero. Solar panels work just as well on brownfield sites, rooftops, wasteland or land that is not suitable for growing crops. I am sure that you will agree that agricultural land is clearly not a necessity for the siting of solar panels.

We need to produce our own food, that was the lesson of the last world war and will also be the lesson of the next one. If you remove the seven thousand tons of food currently grown on the affected farmland, you will have to import it from other countries by ships and trucks at high carbon cost and as the farming infrastructure will have been lost, this will be forever. The more food you remove from the market, the higher the price we will all have to pay for our sustenance. Think of what removing one thousand four hundred hectares of farmland means. Britain has a large population and a limited supply of farmland. We need all of it for food.

The local economy

Another important factor to consider is that by killing off the farming community, the tenant farmers, farm workers and their families, all the local businesses which rely on income from local agriculture will also disappear. Community life in that area will become impoverished and destroyed - a human, as well as an economic, loss.

This loss of property value should not be overlooked. The loss in value of a just a handful of local properties in our area, because of the threat of the nearby project, is

estimated to be at least 1.6 million pounds. When the value of their home sinks, people feel insecure, spend less, all of which will add to the misery. A socio-economic study of these effects must be undertaken by the authorities. Never before has a solar farm of this magnitude been built so close to human habitations.

Our Government spends billions on welfare. Politicians talk of the need to keep people in work, and yet, if this were to go ahead, it could wipe out our local farming communities. Communities where farming has been the way of life for centuries. This solar farm could, just as well, be built on land which is not, and could not, be farmed. I think that we all want to know why it was not. If this goes ahead, a very few people will become much richer but many will become poorer both financially and in their quality of life. This is the largest solar power station to be built so close to human habitation in the world. I am asking those who will make this decision to please think about this. We would all be very grateful if you could.

Cumulative Effects

The Oxford statement notes that: *'The cumulative impacts of solar farm developments require particular attention, particularly where there are numerous solar arrays in close proximity.'* Please refer to the proposed Red House Farm power station development. This will fill up the rest of the valley and butt up against this one. The cumulative impact would create a truly ridiculous situation, that would enter into the annals and text books as a planning disaster to avoid.

We have a rather bizarre situation here. Apparently as neither of the two adjoining power stations has actually been granted permission to go ahead, then it cannot be considered as having a cumulative effect on the other. This anomaly should be investigated and sorted out.

Electro Magnetic dangers

There have also been concerns raised recently about electric and magnetic field pollution caused by substations and the effects on animals, insects, birds, both migratory and permanent, bees, bats and other creatures living in the nearby areas as well as the anxiety and depressive effects on children and adult individuals. Why have these concerns not been fully and properly investigated and taken into account?

The problems of the construction and maintenance processes

The construction itself will cause problems given the small busy roads and many houses. The servicing and maintenance of the power station will also add to the congestion problems around Oxford. The panels will have to be replaced after a maximum of twenty years, probably, as technology increases, much earlier, when again there will once more be problems. The roads in our part of the County are woefully inadequate for the present level of traffic. There is no reason why such a project cannot be built in a less busy part of the county.

The loss of countryside amenities

There are few places in England less suitable for solar power station use than the Farmor Valley.

Oxford's sensible position is that, *'Hillside, open vale, open valley and open downland areas are landscapes where it is least likely that solar PV development could be accommodated'* and yet most of this development, and especially in the Farmor Valley, will be exactly that.

Farmoor Reservoir is one of the UK's most-visited bird watching sites, known for attracting over flying migrants and rarities. Flocks of birds are to be seen on the valley floor exactly in the areas where the development will be. The plight of some species has been raised but the developer has not submitted any realistic solutions.

Wytham Woods are one of the most researched pieces of woodland in the world, and designated as a Site of Special Scientific Interest overlooks the valley.

The countryside in this part of the world has been immortalised by writers and poets such as Mathew Arnold for centuries.

So, why is this enormous project being proposed in this location, which is most unsuitable, rather than in sparsely-inhabited areas of Britain where there is little arable land, no communities to destroy, and a topography which is suitable for obscuring the panels?

Electricity is needed; but the purpose of the 'grid' is to ensure that electricity can be supplied throughout Britain from any location in the land and indeed from countries in Europe. Why then should the electricity be produced in this entirely unsuitable area, so close to busy Oxford, where it will cause so much disruption to those who live here or come here to enjoy the soothing, natural, amenities of the green belt?

Yours faithfully,

William McGill

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