

OBJECTION TO LONGFIELD SOLAR FARM DEVELOPMENT

1. AGRICULTURAL LAND LOSS

1.1 National Planning Policy Framework makes the protection of BMV land a priority, this is even more important as we move closer to food poverty with in the UK. Developers should be using areas of poorer agricultural land and not BMV as all the land proposed in this development was first recorded as being. Developers need to show they have searched for sites that are of low agricultural value and explain why these are not suitable.

1.2 The context of land loss is its effect on food security. The cumulative loss from the Longfield proposal and all the other NSIPs, and smaller schemes going through LPAs, will result in the loss of thousands of acres of food producing land. The result will be more food imports at greater cost and with more uncertainty regarding food availability.

1.3 It is suggested the Longfield development will see the first 12 inches of top soil removed across the total area proposed, if this is true then this land will never return to agricultural land again.

1.4 On the original ALC maps the whole site was Grade 2 and therefore BMV, my understanding is that is has now changed as lower grade soil has been, however within the area marked as lower grade there is still a large area of BMV land that can be used, this is very misleading.

1.5 Alternative sites, Longfield state that using land classification maps shows no prevalence of higher-grade land in the vicinity of the scheme. The maps used in the documentation also show that the scheme is all on Grade 2 land and most of the land to the south and south-west is Grade 3 (the bulk of which is Grade 3b). On page 79, the map provided indicates there is ample low-grade land within the vicinity of 400Kw NETS power line

1.6 Removal of BMV land from proposals (para 6.7.30, pages 84 & 85) explains why 6 BMV land areas remain within the proposal in detail, this is not a good enough reason for including BMV land in the scheme

1.7 Conclusions, based on all the facts in paras 1.1 and 1.6 above, it is reasonable to regard the whole of the site as productive agricultural land and on this basis all planning approval should be refused, even more so when the UK is heading in to food poverty. It is quite clear that the Longfield developers have made no serious attempt to look for or consider alternative sites as with in the county of Essex there is over 30,000 ha of poorer grade land providing more than enough space to develop this solar farm development. If this low grade land is to be ignored by Longfield then the very least BMV land should be removed from this proposals.

2. BIODIVERSITY AND LONGFIELD SOLAR FARM

2.1 Introduction to BNG Maintaining and increasing biodiversity is regarded as a critical factor in managing the stability of the planet. To this end, the 2021 Environment Bill mandates most new development will deliver an overall gain in biodiversity. This is called 'biodiversity net gain' (BNG) or sometimes 'net biodiversity gain' (NPG). This is therefore an important aspect for all local planning authorities to consider in approving or rejecting planning proposals and, in particular, solar farms. The law does not apply to NSIPs (Nationally Significant Infrastructure Projects). Nevertheless, developers may wish to show their NSIP proposals do deliver BNG.

2.2 Measurement of BNG Biodiversity was originally measured by using Biodiversity Metric 2.0 (JPO 29) Natural England 007.2019; this has now been superseded by Biometric 3 (JPO 39) Natural England 07.2021. JPO 39 was used in the Longfield BNG report.

2.3 Commentary on BNG Ecologists in the UK generally regard the metric as not fit for purpose. Prof. K. Willis a leading ecologist from Oxford University said in 2021 that the BNG total “will promote further loss and fragmentation of some of the UK’s natural environment and even more important the ecosystem services that flow. She concludes that “net biodiversity gain will end up being net biodiversity loss”.

2.4 Biodiversity impact on solar farms, In 2019 a survey by BSG Ecology stated “evidence of solar farms impact on biodiversity remains limited... there is little empirical data on the subject”. Natural England recommends the avoidance of solar developments in or near to areas of high ecological value. In the same report it was stated that “the lack of evidence available relating to the ecological impact of solar farms is concerning”. Longfield documents (para 4.6.1) claim a BNG of 79%. This is not a figure that can be justified.

2.5 BNG Trading Rules “The proposed development results in a loss of 6.35 units of high distinctiveness – lowland mixed woodland, and the provision of lower distinctiveness woodland to compensate for the loss of habitat is contrary to published net gain trading rules”. In addition, the report states that “Trading rules are not met for mixed scrub and pond habitats.” Overall, the conclusion must be there is a possible damage to biodiversity and the BNG is not valid and does not follow the trading rules as set out in JPO 39.

2.6 Ecological Survey details

2.6.1 Badger Survey – this report is confidential and so comments cannot be provided.

2.6.2 Reptiles – “The ecological data is only valid for short periods due to the transient nature of the subject. A survey in 2022 is recommended.” This is not currently available.

2.6.3 Birds (para 6.1.1). “The scheme has the potential to result in the direct loss of habitat needs by protected and notable bird species.” There is a recommendation that a significant number of extra surveys are required. Wintering bird surveys are needed in 2022/23.

2.6.4 Breeding Bird Surveys – “The construction of the scheme in the absence of avoidance or mitigation has the potential to affect the breeding bird assemblage within the site boundary. These potential effects include;

- habitat loss and fragmentation**
- displacement and/or loss of breeding populations**
- increase in noise causing disturbance and visual distortions”.**

Noted that loss of arable farmland will have an impact on the birds it supports such as Golden Plover, Skylark, Lapwing, Yellowhammer and Linnet. The loss of game cover will impact flocks of seed-eating passerines, Linnet and Yellowhammer.

2.6.5 Great Crested Newt (para 7.1.4). Noted that the Great Crested Newt terrestrial habitat may be directly affected on a temporary and permanent basis by the scheme.

2.6.6 Flora. Flora surveys are critical in any ecological survey as they represent baseline trophic levels. Surveys were carried out in 2020 and the document notes not all habitats were surveyed (para 3.4.4). Also noted that surveys are normally only valid for 18 months to 2 years.

Noted there will be major construction impacts on the flora from noise, dust and lights. There will be habitat loss and change. "Overall, there will be loss of some improved grassland and important arable plant assemblages".

2.6.7 Additional comments, the consultation brochure identifies 1 SSSI near the site and 31 non statutory sites within 2km.

- **There is reference to an OLEMP (on-line Landscape & Ecology Management Plan). This could be an important document but is not available for comment.**

2.6.8 Biodiversity Conclusions

- **It is clear there will be mitigation and enhancement proposals in the Longfield Solar Farm; these are to be welcomed.**

- **If the mitigation and enhancement were to be applied in an agricultural context, as they could be in the government's Environmental Land Management (ELM) scheme, then the biodiversity gains could be greater.**

- **It is clear from all the reports that more work is needed on ecology and biodiversity.**

- **The existing site is of significant value with its woodland areas, ponds, proximity of valuable sites and the range of species identified in the surveys.**

There is a probable negative impact on biodiversity and more ecological study is needed. It would be premature to give approval for large scale solar schemes such as Longfield Solar Farm proposals as after a few years considerable ecological damage could be achieved that would be difficult to correct. Current advice from organisations such as Natural England is to site solar farms away from areas of value. The Longfield Solar Farm site would be classed as an area of value. The BNG assessment of 79% cannot be justified, (para 7.3 Statement of Reasons quotes 79% BNG as a public benefit).

3. LANDSCAPE

Longfield Solar Farm will have a major impact on the landscape and a visual impact on what is a beautiful part of the Essex countryside. This is identified in the consultation booklet p.21 "We have identified potential impacts on views into the site from a number of points during the construction, operational and decommissioning phases."

Specified points to note regarding landscape are:

3.1 Para 6.5.4 acknowledges the fact that the scale and speed required to meet the current and future need identified is likely to have some negative effects on the landscape and visual amenity which may not be able to be mitigated.

3.2 Landscape Visual Amenity – para 10.8.18 notes medium sensitivity and medium magnitude effect (in construction) with moderate adverse to significant effect.

Para 10.8.39 – the scheme would result in the loss of some key characteristics, namely the agricultural character and reduction in the sense of openness given the change of land use.

Para 10.8.59 notes – People walking the Essex Way would experience moderate adverse effects. These effects are considered to be significant.

Para 10.9.2 - It would not be possible to mitigate every adverse effect due to requirements of the solar generation. Table 10.7 indicates the residual effects after mitigation – a number of which are described as major adverse and significant (namely White Oaks which will be surrounded at every outlook).

3.3 Mitigation effects

Para 10.8.62 states that by year 15 the proposed planting would have established and would be in leaf and reduce the perception of the new infrastructure.

Para 10.8.5 refers to advance mitigation planting, stating this would have significant effects by year 4

3.4 Overall Landscape Conclusions Landscape and visual impact will be very significant. Mitigation will have little impact since trees and hedgerows that will be planted to try and limit the adverse impacts will have little effect through the early part of the scheme (namely 15 years).

4. NOISE

Chapter 11 of the Environmental Statement – Noise & Vibration

4.1 Chapter 11 is prepared by AECOM.

4.2 There are a number of NPPF, NPS, EN3 and EN1 guidelines NPPF state “proposals should demonstrate they mitigate impacts such as noise”, “prevent new developments from contributing to or adversely affected by unacceptable levels of noise pollution”, “identify and protect landscape areas which have remained undisturbed by noise”.

4.3 Noise levels are considered to have a medium impact at 70-75 dM and a high impact at 75dM.

4.4 The ES splits the site into R numbers. The properties most affected by the noise are near Boreham on the Waltham Road. Six sites are identified as having moderate to adverse noise early

morning and night. R27 is White House and is given a medium rating of 40dM (LAr) night time and early morning.

4.5 The ES appears to undervalue the noise factors. In the construction phase mitigation appears to be primarily by informing those most affected by the noise when this will happen. Noise and vibration will come from inverters, transformers and switch gear. This is an adverse effect of the scheme.

4.6 Taking all the above in to account how detrimental will this noise pollution be to the “Mental Health” of the residents of Terling and the surrounding area having this work taking place six days a week, Monday to Friday 12 hours a day 00.70am to 19.00pm.

5. OTHER SIGNIFICANT CONCERNS

5.1 Construction Traffic Para 11.5.27 Chapter 11 ES During construction daily there will be a large number of HGVs on the strategic road network of which 50 HGVs would be on the local highway network via Wheelers Hill, Waltham Road and Cranham Road.

5.2 Planning Statement 7.2 Noted that National Highways has yet to submit for a DCO, when can this document be viewed and commented on as it not yet available.

5.3 Planning Statement 3.3 In the construction period there will be over 600 workers and the construction will be from 7 a.m. to 7 p.m. on Monday-Sunday, how will impact on the metal health of the people of Terling and the surrounding areas?

5.4 Statement of Reasons 4.1 Compulsory Acquisition Powers. These are requested as it has not been possible to obtain all interests by agreement. Para 1.7.1 accepts this might infringe human rights. It is quite clear the construction phase will be very disruptive to local residents.

6. BATTERY SAFETY

6.1 Outline Battery Supply Management Plan. This is an outline plan and the detail is to follow. However, there are significant risks of fire and explosion from thermal runaway from Lithium-ion batteries. The storage for the Longfield site will be one of the largest in the country. It is clear the developer is aware of fire risks but it is difficult to comment on outline plans. It seems dangerous for a DCO to be given until such time as fire risks are adequately assessed and fully published.

6.1.1 In Summary – Liverpool report The explosion at the BESS facility at Carnegie Road, Liverpool was a result of a failure within one of the battery racks in one container which led to a thermal runaway which in turn produced gases within the container culminating in a large explosion with parts of the container being blown across the compound to a distance of 23m. The main fire took 6 hours to bring under control but the continual recycling of heat from the Li-ion batteries remained an issue and defensive fire-fighting continued on-site for a total of 59 hours. The fire and explosion

were deemed to have been caused by the failure of one or more battery units, but the root cause of the battery failure remains unknown. The Liverpool site had only 3 BESS containers (Longfield is multiple enclosures). A fire suppression system had been fitted. The report stated there was a significant risk to emergency responders. Battery safety is a serious planning consideration for the Longfield submission, this is why a full "fire risk assessment" is required and should be published prior to any planning permission being granted.

STATEMENT OF NEED

7.1 This statement, along with many other paragraphs in the documentation, justifies the Longfield proposals as a contribution to decarbonising the energy sector to meet net zero targets. The scheme is described as the deployment of zero-carbon electricity at scale.

7.2 It needs to be understood that solar farms are relatively inefficient. In terms of the amount of power exported to the grid Solar's rating is about 15% efficiency whereas for off-shore wind the figure is 50%+ efficiency.

7.3 Solar farms are not carbon-neutral. Research by scientists at Cranfield University has shown that Green House Gas emissions are relatively high (GHG). This is particularly during the construction phase. The probable output is 6.87 gas CO2 per KWhr. Most schemes ignore upstream processes, PV panel manufacture, BESS cables and cabling. The Energy Security Strategy (April 2022) concentrates on offshore wind and nuclear. No targets are set for solar. The strategy states it will ensure environmental protection for ground mounted solar and large-scale solar projects will be encouraged to locate on previously developed or lower value land. The strategy encourages roof-top solar and will simplify planning for this.

All the above implies the Longfield proposals should not be granted a DCO on the basis they are not Carbon neutral, are relatively inefficient and do not accord with the government strategy as set out in the recent energy security strategy namely that large schemes should be sited on lower value land