Application for DCO by FOSSE GREEN
Summary of Representation by Anne Heard Interested Party reference F88728215
Deadline 1

**1. No Grid Connection**

There is no existing grid connection. All solar DCOs which have been made to date are to existing grid connections. The proposed development is intended to connect to the proposed Navenby substation in respect of which there is no planning permission. The proposed development is not capable of being brought into operation unless planning permission is granted for the Navenby substation and NGET decides to proceed with the construction of the substation.

**2. Permanent loss of agricultural land**

The IEMA guidelines sets out that the permanent sealing above 20ha of agricultural land is of a high impact magnitude and in the case of BMV land gives rise to a major impact which is significant in terms of the EIA. The total amount of agricultural land which will be permanently lost is not the 4.6 ha stated by the Applicant but at least 20.43 ha comprising solar station compounds, swales, BESS compound, onsite substation, access points and internal tracks in addition to the areas of planting and habitat creation.

**3. Soil Condition**

In addition to the area of agricultural land referred to above which would be sealed by infrastructure, the remainder of the principal site on which the Solar PV development will be sited has the potential to be permanently damaged by the proposed development as a result of the reduction in soil quality and contamination from degrading cables and cable housing, soil compaction, soil erosion and soil disturbance.

4. **Impact on Food Production**

The Applicant has failed to consider the impact of the loss of agricultural land for food production which is a material planning consideration.

**5. Cumulative Impact on agricultural land**

Farming land and is a finite resource for the country's food production. The rapidly increasing number of applications for solar farms in the county will result in the proliferation of these developments which will significantly erode the amount of available agricultural land in the county.

**6. Impact on Heritage Assets**

The Applicant's assessment of the impact of the proposals on Bassingham Conservation Area does not consider the change in character of the arable fields which is an important element of the description of the Conservation Area set out in the Bassingham Conservation

Appraisal Document. The proposals will have a major impact to the setting of Bassingham Conservation Area and there will be substantial harm to this heritage asset.

**7. Ecology- Impact on bats**

7.1 There is recent research that bats are negatively affected by solar PV sites and the reasons for this are not understood. The Applicant has failed to consider the impact of noise, lighting, habitat fragmentation and the removal of 1,985$m^2$ of hedgerow on roosting and foraging/commuting bats.

7.2 There is no evidence that the proposal by the Applicant to provide embedded mitigation and habitat compensation and enhancement will result in a negligible impact on the bats from the proposed development in EIA terms. Biodiversity mitigation strategies have failed.

**8.0 Noise-Public Rights of Way (PRoW)**

8.1 The Applicant has scoped out of the assessment noise arising along the Public Rights of Way (PRoW) within the application site. Whilst PRoW are linear in nature, they often join with other ProW to form circular routes, for example the Stepping Out Walks at Bassingham and Thorpe on the Hill and the series of footpaths between Bassingham and Aubourn.

8.3 Whilst the users are the PRoW are "transient", their experience of the use and enjoyment of the PRoW will be destroyed by noise and disturbance along the route of the walks, arising from the proposed development. The Applicant has failed to consider this impact given the World Health Organisation guidelines which advises that existing quiet outdoor areas should be preserved.

**9.0 Noise- St Michaels and All Angels**

The Applicant has failed to consider the impact of noise from construction activities associated with the proposed development within the churchyard.

**10.0 Traffic and Transport**

10.1 Clay Lane, Bassingham, a narrow single track lane, is unsuitable for the projected level of vehicle movements each day during construction.

10.2 Although the Applicant says that only a small proportion of trips are expected to pass through Haddington, the proposed HGV routing runs through Haddington village. The IEMA guidelines which the Applicant has applied to the assessment of the potential impact of traffic do not take into account disturbance to residents from increased traffic movements through the villages such as Haddington.

**11. Risk and effect of fire and explosion at BESS**

11.1 The Applicant's assertion that the likelihood of any thermal runaway incident is "unlikely" is not borne out by the number of well publicised Lithium-ion failures. There have already been a number of BESS fires in the UK.

11.2 The unplanned emissions modelling assumes that a fire would be restricted to one cabinet of a BESS container. The Applicant has failed to acknowledge that a fire could spread from one battery container to the next and has failed to consider the impact of such a fire.

11.4 In the distributed BESS, the BESS containers are to be within the solar stations which will be sited on opposite sides of the road from Aubourn to Bassingham. In the event of a fire in one of the BESS containers here, the smoke and flames will inevitably cause a danger to any vehicles travelling along this road.

**12. Effects of Fire Water on Groundwater**

The Applicant has understated the amount of water that may be required to bring a BESS fire under control. Potentially millions of litres of firewater runoff could not be contained in the swales as proposed by the Applicant. There is a potential risk to groundwater quality from the release of firewater from the proposed BESS in breach of the Water Framework Directive.

**13. Contamination of groundwater from solar panels**

The Applicant has failed to provide any level of detail about how frequently the solar panels which contain chemicals and heavy metals that can leach into the groundwater will be inspected and where any damaged panels will be stored.

**14. Visual Amenity**

The proposed development will detract from the rural, visual and historic character of the villages affected and the setting and environment of the surrounding landscape.

**15. Landscape Character**

The Applicant acknowledges that there will be a major adverse effect on the landscape in relation to the principal site during construction and until year 15 when the effect of the proposed development on the landscape remains moderately averse. There will be an evident change in the land use and character due to the solar panels and associated equipment introducing structures into an arable landscape covering an area of 1070 ha.

**16. Cumulative Visual and Landscape Impacts**

The Applicant has commented on the cumulative effects of the proposed development and each of the other developments in turn, it has not considered all of these developments together which would have a greater impact in visual and landscape terms.

The Applicant has understated the visual and landscape impacts of the proposed development on the Limestone Heath. Even after the mitigation planting has matured, the impact of the 15m high transformers of the Navenby substation and other BESS infrastructure all clustered in this area will still be visible and permanently change the character of the area.

The cumulative visual and landscape impacts of the proposed development will extend over a much larger area than the Limestone Heath. The impact will affect the lives of thousands of residents and many communities from Thorpe on the Hill in the north to Scopwick in the east, Leadenham in the south and Norton Disney in the west. Travelling across the landscape these developments will be visible and change the nature of the arable landscape to an industrialised area. Cumulatively the scale and extent developments such as Fosse Green, Springwell and Leoda will cause significant harm to the rural character of this part of Lincolnshire.

**17. Tranquillity and well-being**

The proposed development will result in increased traffic movements, noise from machinery, light pollution, the introduction of buildings into open areas of countryside resulting in the industrialisation of large swathes of land. The Applicant has not considered the impact of the proposed development on the well-being and sense of place of the residents and visitors to this area.

**18. Benefit to the community**

The electricity generated by the proposed development will feed into the National Grid and therefore will not benefit the local community. The proposed development is not community-led nor does it benefit the local community.

**19. Funding Statement and Decommissioning costs**

The Funding Statement should identify the costs of decommissioning and how they will be met. After the 60 years operational period for the project, it is unlikely that the Applicant would have any legal or operational interest in the application site. In order to ensure that the decommissioning and restoration works are not carried at public expense, the DCO should include a requirement that the Applicant provide an on-demand index-linked performance bond to NKDC to secure the performance of the decommissioning obligations set out in the draft DCO.

Application for DCO by FOSSE GREEN
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## 1.0 Grid Connection

1.1 At the ISH 1 on 6 January 2026 (Session 1) (ENV2-003) the ExA asked the Applicant to comment on the case where an element of the proposed development is dependent on an associated project in respect of which other parties seek consent. In response the Applicant stated that it was "commonplace" for NSIP projects to be promoted without a grid connection and that "what is being done here is not unusual, indeed it is par for the course" (52:09).

1.2 The evidence shows that it is not commonplace for NSIP solar projects to be promoted without a grid connection. 16 applications for solar farm DCOs have been granted by the Secretary of State and **all** of these include a connection into the electricity grid via an existing grid connection:-
Byers Gill
Cleve Hill
Cottam
East Yorkshire
Fenwick
Gate Burton
Heckington Fen
Helios
Little Crow
Longfield
Mallard Pass
Oaklands
Stonestreet
Sunnica
Tillbridge
West Burton

Of the remaining 26 applications for solar farm DCOs currently being processed, 14 are also proposed to connect into existing electricity substations:-
Beacon Fen
Dean Moor
East Park
Eco Power Suffolk
Frodsham
Great North Road
Green Hill
Hedgehog Grove
Kingfisher
Light Valley
Lime Down

Mylen Leah
Peartree Hill
South Brooks

Of the 12 applications for solar farm DCOs that are proposing to connect into a new electricity substation:-
7 are at pre-application stage:-
Beacon
East Pye
High Grove
Leoda
Maen Hir
Meridian
Whitestone
Only 5 applications are at a more advanced stage:-
Springwell and Botley West are at recommendation stage, One Earth and the Droves at Examination stage in addition to the Fosse Green application.

There are therefore only a handful of solar projects that are being promoted to an advanced stage that do not have existing grid connections.

1.3 At the ISH1 hearing on 6 January 2026 (Session 1) (ENV2-003) the Applicant stated that "it had been told that it had achieved a Gate 2 connection for the solar scheme and a Gate 1 connection for the battery scheme" (31:24). The TEC register maintained by NESO is updated twice weekly and includes a column called "Gate" indicating whether a Gate 1 or Gate 2 agreement is in place. The column is to be populated once agreements have been countersigned. As at 9 January 2026 there were no Gate 2 agreements noted against any of NGET's 1301 project entries on the TEC register, including the entry for Fosse Green. Presumably whatever communication has been made to the Applicant, there is no binding contractual agreement in place as at that point NESO are to provide details of a connection date, connection point and position in the queue. It is difficult to see how this could be provided unless and until NGET have planning permission for the Navenby substation.

1.4 Paragraphs 4.11.8 and 4.11.9 of NPS EN-1 require that in the circumstances that it is not possible to coordinate applications the applicant should "confirm that there are no obvious reasons for why the other elements are likely to be refused". In paragraph 3.4.3 of the Grid Connection Statement (APP-200), the Applicant says that on the basis that NGET take a responsible approach to siting, design and mitigation there is "no obvious reason known to the Applicant why consent for the substation would be withheld".

1.5 The Screening Opinion reference 24/1080/EIASCR dated 15 October 2024 in respect of the proposed Navenby substation sets out the potential impacts of the development. Whilst the screening opinion acknowledges that matters such as the effects of the development on ecology, traffic and transport, air quality, noise and vibration could be mitigated, it highlights a number of potentially significant effects which could not "realistically be mitigated against in the Council's opinion":-

Landscape and Visual- “The extensive nature of the substation and the erection of two additional pylons (which are indicatively noted as being offset/offline i.e not comprising a continuation of the existing linear arrangement of the 400kv circuit) will lead to the increased urbanisation of an otherwise rural landscape as much of the HV equipment will be visible above the existing hedgerows. This is considered to be a potential significant effect”.

Archaeology-“The screening matrix identifies that this area has high potential for previously unknown archaeological remains which would be required to be investigated further as a potential significant effect as the remains could be of regional or national importance. It is likely that the impact on previously unknown archaeological remains would lead to potential significant effect”.

Agricultural land- “The development would result in the permanent loss of around 11.8 ha of BMV agricultural land which is considered would lead to a potential significant effect due to the extent and high quality (Grade 2) of the agricultural land that would be lost. Whilst some mitigation might be possible by way of the production of a Soil Management Plan the proposed development is not temporary/reversible and there would be no scope for the continuation of certain agricultural practices within the bounds of the application site in the way commonly proposed for solar developments”.

Cumulative Impacts-“The primary cumulative impacts arise from landscape character and visual impact stemming from a continuation of urbanising form in a countryside location and visible from a number of locations within an open landscape. There will be further cumulative impact considerations in relation to archaeology and loss of BMV land. The schemes (Springwell, Gorse Hill lane BESS, BESS to the north of Green Man Lane, Navenby) could have impacts on areas and features known for their value in terms of archaeology, landscape value and agricultural quality that would have a significant adverse cumulative effect”.

1.6 The Scoping Opinion for the proposed Navenby substation was issued by NKDC on 6 August 2025 under reference 25/0699/EIASCO. This reiterates that the combined mass and scale of several energy projects across the region “has the potential to lead to adverse effects on landscape character of the local, and potentially regional, area”. “This would be an issue when experienced sequentially for visual receptors travelling through the landscape and experiencing multiple schemes across potentially several kilometres, albeit with gaps between some of the projects. However, repeated views and presence of large scale solar would combine over time to create a greater perception of change”. With regard to the impact on BMV agricultural land the Opinion sets out that “it is likely that much of the site will be BMV quality land and the loss will be permanent with sealing over any soil resource”.

1.7 The Applicant has failed to acknowledge that these environmental impacts may tip the planning balance against the granting of planning permission for the Navenby substation.

1.8 The Applicant says that there is no evidence to suggest that the Navenby substation will not come forward. The following projects for connection to the Navenby substation are at **scoping** stage on the TEC register as at 9 January 2026:-

| | |
|---|---|
| Bicker Drove Bess- PRO-003874 | 400MW |
| Cliff Hill Energy Farm- PRO-003896 | 800 MW |

| | | |
|---|---|---|
| Denton Estates Solar PV and BESS | PRO-004417 | 129 MW |
| Ewerby (Leoda) | PRO-002017 | 500MW |
| Housham PV and BESS (Fosse Green) | PRO-002254 | 240MW |
| Navenby GEC (Ethos Green) | PRO-003936 | 580MW |
| Springwell | PRO-001850 | 1600MW |
| Total | | 4249 MW |

1.7 Of these projects:-

-Leoda is at pre-application stage for a DCO application.

-Springwell is at decision stage for a DCO application.

-Bicker Drove BESS (south of Green Man Road, Navenby) is subject to a current application to NKDC for planning permission (25/0491/FUL). There are 351 objections to the proposed development.

-One of the other projects may relate to the Gorse Hill BESS, Navenby Heath in respect of which an EIA screening opinion has been issued by NKDC (24/0075/EIASCR).

1.8 In REP1-092 of the Springwell DCO application, NGET commented that other developers have requested connection into the proposed Navenby substation. NGET says "If the new power connections are not required or are no longer needed, the necessity for the substation would be assessed". NGET will need to make a commercial decision as to whether to proceed with the Navenby substation, especially if planning permissions for other projects elsewhere in the country come forward before the proposed developments that are planned to connect to the Navenby substation (as at 9 January 2026 NGET had 1301 projects listed on the TEC register). The decision whether to proceed with building the substation, even if planning permission was to be granted for it, is a matter for NGET and outside the control of the Applicant.

1.9 Paragraph 19 of the Planning Act 2008 – Guidance relating to procedures for the compulsory acquisition of land- Sept 2013 states that:-

"The high profile and potentially controversial nature of major infrastructure projects means that they can potentially generate significant opposition and may be subject to legal challenge. It would be helpful for applicants to be able to demonstrate that their application is firmly rooted in any relevant national policy statement. In addition, applicants will need to be able to demonstrate that any potential risks or impediments to implementation of the scheme have been properly managed…"

1.10 The potential risk to the proposed development is that planning permission will not be granted for the Navenby substation and/or that NGET decides not to proceed with the construction of the substation eg if planning permissions/ DCOs are not forthcoming for the other proposed connections. The Applicant is not able to comply with the above CPO guidance as these risks are completely out of their control and therefore cannot be managed.

1.11 At the ISH 1 on 6 January 2026 (Session 1) (ENV2-003) the Applicant stated that if planning permission was not forthcoming for the Navenby substation, NGET is under a commercial obligation to the Applicant to provide a grid connection for the proposed scheme (36:31). However, the proposed development could not be constructed under the

terms of the proposed DCO as the authorised development only allows for a grid connection to the Navenby substation (Works number 5A and 5B of Schedule 1 to the DCO APP-016).

## 2.0 Agricultural Land

2.1 The total area of the proposed development site is 1368 ha as set out in paragraph 2.2.3 of Chapter 2 The Site and Surroundings (APP-027). Paragraph 3.1.3 of Chapter 3 The Proposed Development (APP-028) says that the total area of the proposed development is split between the Principal Site which is 1070 ha and the Cable Corridor which is 351 ha. There is an overlap between the Cable Corridor and the Principal Site which means that 53 ha of the Cable Corridor runs within and is included in the area of the Principal Site.

2.2 Table 12.15 of Chapter 12 Socio Economics and Land Use (AS-016) sets out the distribution of Agricultural Land Classification grades within the Principal Site. In addition to a small area of 18.4 ha that was not surveyed and 15 ha of non agricultural land, the table states that there are 702.4 ha of non BMV land and 282.9 ha of BMV land, a total area of 1,018.7 ha. If the area of the Principal Site as set out in paragraph 2.1 above is 1070 ha, some 51.3 ha has not been accounted for in Table 12.15 (presumably this relates to the Cable Corridor within the Principal Site). The figures in Table 12-15 should be therefore be amended to include the 51.3 ha and identify the ALC grade/s of this land.

2.3 Paragraphs 12.7.40 to 12.7.43 of Chapter 12 Socio Economics and Land Use (AS-016), consider the effects of construction on agricultural land, and make a distinction between the agricultural land within the Cable Corridor, which is stated to be only temporarily required for cable laying and which will be restored to agriculture after construction, and the area of land within the Principal Site which would be lost to agricultural use during the 60 years of operation. The figures for the amount of agricultural land within the Principal Site lost during operation taken from Table 12-15, ie 282.9 ha BMV and 702.4 ha of Grade 3b are incorrect as they do not include the 51.3 ha of the Cable Corridor within the Principal Site, see paragraph 2.2 above. Comparing the area of Cable Corridor within the Principal Site shown on Fig 12-5 Agricultural Land Classification Plan for the Principal Site (AS-068) with the Works Plan, Sheets 6,10 and 11 (AS-006), the Cable Corridor within the Principal Site will be used for construction of solar arrays, onsite substation, landscaping, biodiversity and ancillary works and therefore will also be lost to agricultural use throughout the 60 years of operation.

### 2.4 **Permanent loss of agricultural land**

2.4.1 Paragraph 12.4.40 of Chapter 12 Socio Economics and Land Use (AS-016) cites the IEMA guidelines which says that the permanent sealing of land above 20ha (including temporary development where there would be a reduction in soil quality) is of a high impact magnitude and in the case of BMV land gives rise to a major impact which is significant in terms of the EIA (Table 12-14 refers).

2.4.2 At the ISH1 on 7 January 2026 (Session 5) (ENV2-011) the Applicant suggested that the reference to the permanent sealing of land in the IEMA Guidelines has been interpreted as relating to the sealing of land by roads and buildings and not solar developments and cited Tillbridge, Cottam and West Burton DCO as the authority for this (1:08:44). However,

neither the ExA's Recommendation Reports nor the Secretary of State's decision letters in these three cases make any reference to the IEMA guidelines or the definition of permanent sealing of land within those guidelines.

2.4.3 In the following solar farm NSIPs it was accepted that the construction of access tracks, solar stations and other similar infrastructure amounted to a permanent sealing of agricultural land:-

**Mallard Pass** – this was a 60 year time limited consent although the EIA was originally carried out on the basis that the proposed development would be permanent (paragraph 4.9 to 4.17 of the SoS Decision letter). The Applicant subsequently advised that the 60 year time limit did not alter the conclusions in Chapter 12 of the ES (paragraph 3.7.96 of the Recommendation Report refers). Table 12-4 of Chapter 12 Land Use and Soils (APP-042) states that the areas of access tracks and solar stations on the site amounts to 8 ha. Paragraph 12.4.16 acknowledged that these areas will be treated as permanently sealed over. It was accepted in paragraph 12.4.20 that even though the outline Decommissioning and Environmental Management Plan required the solar station and tracks to be restored to agricultural use at the end of the operational phase, "it is assumed that restoration may not be back to comparable quality, at least initially, following decommissioning". The onsite substation containing 6.4 ha (Table 12-5 refers) was also considered as permanently sealed over for the same reasons as the access tracks and solar stations. Of the 14.4ha of agricultural land affected by the substation, access tracks and solar stations, 4.2ha was BMV land (Table 1 of the ExA Recommendation Report refers).

**Heckington Fen** -this was a 40 year time limited consent. Paragraph 16.6.30 Chapter 16 Land Use and Agriculture (APP-069) states "only those areas of land proposed for the fixed equipment and substations, should be treated as sealed-over or irreversibly lost. The final Construction Management plans can require those areas to be restored to agricultural use at the end of the operational phase, but a cautious approach is taken in this ES and it is assumed that restoration may not be back to comparable quality, at least initially, following decommissioning". Paragraph 3.6.42 of the ExA report noted that of the 20.2ha of agricultural land proposed for the tracks, solar stations and substation, less than 3 ha would be BMV land. Paragraph 4.52 of the Secretary of State's decision letter acknowledges that the permanent loss of 2.8ha of BMV is a harm of the proposed development.

**Gate Burton**- this was a 60 year time limited consent. Paragraphs 12.8.8 of Chapter 12 Socio Economics and Land Use (REP4-010) stated that "the Solar Energy and Solar Park contains 73.6 ha of BMV and 6.8 ha of estimated BMV of which approximately 2 ha will be permanently lost due to the construction of the substation and permanent planting on site… The remainder and vast majority of BMV land affected (approx 73 ha) will be temporary and reversible following decommissioning". There was a clear distinction made between the temporary loss of agricultural land for the solar arrays during the operational phase of 60 years where the use could revert back to agriculture and the permanent loss of agricultural land for the permanent planting and substation which was not reversible. Paragraph 1.1.2 of the Decommissioning Environmental Management Plan (APP-026) stated that the future of the substation and associated control buildings would be agreed with the LPA prior to commencement of decommissioning. Paragraph 4.174 of the Secretary of State's decision

letter states “The Secretary of State agrees with the ExA that 2 ha of BMV would be permanently lost and around 73ha would be out of arable use for 60 years”.

**Beacon Fen** (yet to be decided) -time limited consent 40 years. Paragraph 14.7.3 Chapter 14 Soils and Agricultural Land (APP-065) says that the permanent land take is the footprint of the built development including the BESS, substation, transformer stations, construction compounds and the access tracks and roads, a total of 23.31 ha. A distinction is made between this permanent loss of land and the temporary nature of the loss of agricultural land for the solar arrays where the land can be returned to agriculture after decommissioning (paragraph 14.7.2 refers). Paragraph 1.4.9 of the Outline Decommissioning Plan (APP-078) states that all solar infrastructure will be removed on decommissioning.

The intention in all of the cases referred to above, with the exception of Gate Burton (where the future of the substation was to be decided at the time of decommissioning), was to remove the infrastructure and revert the use of the land to agriculture on decommissioning. In all cases there is an acknowledgement that there would be a permanent loss of agricultural land for the areas of the substations, BESS etc. In Mallard Pass and Heckington Fen, the applicants acknowledged that even though their intention was to remove the infrastructure, there was doubt as to whether the soils under these areas could be returned to their former ALC quality and adopting a cautious approach, they considered that these areas were permanently lost.

2.4.4 Paragraph 12.7.44 of Chapter 12 Socio Economics and Land Use (AS-016) sets out that in the opinion of the Applicant the only agricultural land permanently lost due to the proposed development are areas of planting and habitat creation, namely 4.6ha (of which 1.5 ha is BMV).

2.4.5 The Applicant has failed to consider that in addition to the areas identified in paragraph 2.4.4 above are the following areas which will also be permanently sealed over:-

-Up to 100 Solar Station Compounds each 0.09 ha to be constructed on concrete bases (Table 3-3 Chapter 3 APP-028), total 9 ha.

-The impermeable swales constructed on three sides of each of the 100 Solar Station Compounds as set out in the Framework Surface Water Drainage Strategy (APP-147) and illustrated on the plan at Annex C to the strategy. The swales will be 6m wide, the total area across the Principal Site is not stated.

-BESS compound 315m x 165 m and BESS Switchgear and control room 12.5m x 2.5m to be constructed on concrete base (Table 3-4 Chapter 3 APP-028), total 5.2 ha

-Onsite Substation 155m x 105m to be constructed on concrete foundations (paragraph 3.3.49 Chapter 3 APP-028), total 1.63 ha

-7 operational and 3 emergency access points and internal tracks 5 m wide with passing bays (paragraphs 3.3.69 and 3.3.70 Chapter 3 APP-028), the total area is not stated.

2.4.6 The total amount of agricultural land which will be permanently lost is at least 20.43 ha. The Applicant should be required to clarify the amount of agricultural land to be used for internal tracks, access points and swales and to calculate the proportion of the sealed over land that is BMV.

2.4.7 The Applicant is not taking the same cautious approach as the applicants in Mallard Pass, Heckington and Gate Burton DCOs (referred to in paragraph 2. 4.3 above) in considering that these areas will be permanently lost because the soils could not be returned to their former ALC quality. The implications of so doing would mean that the permanent loss of potentially over 20 ha of BMV land within the proposed development would trigger the IEMA thresholds. (In the cases cited in paragraph 2.4.3 above the amount of BMV and which would be lost was below the 20 ha threshold- Mallard Pass 4.2 ha, Heckington less than 3 ha, Gate Burton 2ha).

2.5 **Soil Condition**

2.5.1 In paragraphs 12.7.62 to 12.7.67 of Chapter 12 Socio Economics and Land Use (AS-016) the Applicant asserts that the soil resource within the Principal Site will benefit from being rested from intensive cultivation during operation and is expected to be returned in a better condition than it is now. At paragraph 12.7.83 of Chapter 12 Socio Economics and Land Use (AS-016) and in paragraph 2.3.2 of the Framework Decommissioning Environmental Management Plan (APP-191) it is stated that the infrastructure including the BESS, solar station compounds and on-site substation will be removed on decommissioning. No mention is made whether the impermeable swales will be removed. Whilst no mention is made whether the cabling and cable ducting within the Principal Site will be left in situ, the cabling and cable ducting within the cable corridor **may** be removed. Although no reference is made in Chapter 12 Socio Economics and Land Use (AS-016) to the consultation with the EA regarding the proposal to leave the cabling in the ground on decommissioning, in Chapter 9 Water Environment (APP-034), the EA have raised concerns about the suggestion that these cables may be left in situ. At page 43 they comment “Cables and components are expected to break down over longer periods of time (that is, beyond the operational design life). Potentially contaminative compounds within cables and cable housing may leach into soils and groundwater over decades after decommissioning”.

2.5.2 The Framework Soil Management Plan (AS-100) makes no reference to the management of soil during decommissioning nor about how the soil will be restored to a better condition than it is now as the Applicant asserts.

2.5.3 The “permanent sealing” of agricultural land above 20ha referred to in the IEMA guidelines includes temporary development where there would be a reduction in soil quality and this amounts to a high impact magnitude and in the case of BMV land gives rise to a major impact which is significant in terms of the EIA (Table 12-14 of Chapter 12 Socio

Economics and Land Use refers (AS-016)). In addition to the area of BMV land referred to above in paragraph 2.4.5 which would be sealed by infrastructure, the remainder of the Principal Site on which the Solar PV development will be sited has the potential to be permanently damaged by the proposed development as a result of the reduction in soil quality and contamination from degrading cables and cable housing.

2.5.4 The report by ADAS dated March 2023 "The impact of solar photovoltaic (PV) sites on agricultural soils and land" notes that a key residual impact on land is soil compaction, that at the point of decommissioning there is likely to be residual compaction within the soil.

2.5.6 The ISEP (2025) publication "Solar PV on Agricultural Land: Essential components of Environmental Assessments and Reports" states that "the full impact of solar PV are not yet understood. For example, the installation of structures supporting solar panels might cause subsoil compaction, but in the absence of any decommissioning studies, it is not possible to determine the nature or significance of this potential impact. Also, it is possible that the operational maintenance of solar panels might lead to repeated replacements and upgrades which increase mechanical activities in and around solar panels".

2.5.7 Various timescales for recovery of soil from compaction are given in published papers e.g 30 years (Batey 2009 "Soil compaction and soil management- A Review" In Soil Use and Management December 2009 25,335-345). Soil compaction can be persistent and permanent (Hakansson *et al* 1988 Vehicle and Wheel Factors influencing soil compaction and crop responses in different traffic regimes In Soil and Tillage Research 11, 239-282).

2.5.8 There are other issues that may impact on the physical reversibility of soils to the former ALC condition, for example pile pull out may cause the piles to fracture, there may be pile corrosion, and potential loss of zinc from the galvanising coating on piles that will contaminate the soil. There may also be contamination of the soil from the degradation of cabling and cable housing as referred to in paragraph 2.5.1 above. The ISEP publication referred to in paragraph 2.5.6 also points out the events at Porth Wen Anglesey when solar panels were destroyed by strong winds, illustrating that significant contamination by broken glass and chemical pollution can arise because of exceptional weather events which may be on the increase.

2.5.9 Soil erosion is known to occur under solar panels where channels are quickly formed by runoff from the panels because the energy of the water draining from the solar panels could be as much as ten times greater than that of rainfall (L Cook *et al* "Hydrologic Response of Solar Farms" In Journal of Hydrologic Engineering May 2013).

2.5.10 The Agricultural Land Classification of England and Wales (MAFF 1988) states that structural problems with soil occur particularly on disturbed soils. "On land which has been restored, soil structure is often weakened and can be significantly damaged by soil movement and storage. The return of a restored soil to a stable and more natural structural condition is normally a gradual process which needs to be encouraged over a period of years by maintaining an appropriate cropping and soil management regime. Some soils can be rendered very unstable by such disturbance and therefore respond very slowly to remedial measures, even in the topsoil".

2.5.11 The ADAS report referred to in paragraph 2.5.4 above concludes that there is limited evidence specifically relating to solar sites that confirm the benefits to soil health. Factors such as the disturbance of soil at the construction phase may impinge on the development of benefits through the operational phase. At the ISH1 on 7 January 2026 (Session 5) (ENV2-011) (1:35:56 to 1:36:46) the Applicant said that there had been studies of soil quality based on solar farms in the UK already built which came along in the early 2010s and tended to be more densely packed, overshadowed the ground more and were built closer to the ground. The Applicant sought to make a distinction between those solar farms and the current design of solar farms where for example the solar arrays are less densely placed. The Applicant then referenced two studies, firstly the ADAS report referred to in paragraph 2.5.4 above. The report comprises various work packages which informed the final report. Work package 2 dated December 2021 "An Industry Overview" details the level of intervention to land during installation, operation and on decommissioning of solar farms. It draws on the perspective of solar PV developers and consultants and the case studies used are the Tyddyn Cae solar farm (planning application ref C14/0885/33/LL approved by Gwynedd Council in September 2015), New Works solar farm (planning application ref TWC/2021/0737 submitted to Telford and Wrekin in July 2021) and Estuary solar farm (planning application ref 21/01432/FM submitted to West Norfolk in July 2021. The ADAS report is not therefore based on the details of solar farms built around 2010 as the Applicant asserts.

The Applicant then referred to the recent research paper by Fabio Carvalho *et al* "Plant and soil responses to ground-mounted solar panels in temperate agricultural systems" In Environmental Research Letters Vol 20 No 2 published on 10 January 2025. Thirty-two solar farms were sampled in 2021. The age range of the solar farms sampled were between 0.3 and 10.1 years old and therefore this report was based on a wide age range of solar farms and not restricted to those built in the early 2010s as the Applicant asserts. Samples were taken from underneath solar panels, in the gaps between panels and in control pasture land. Plant cover and above ground biomass was found to be significantly lower under solar panels than in the gaps between solar arrays; soil compaction was 14.4% higher underneath solar panels than in gaps between the panels and 15.5% higher than in the control pasture land; soil organic carbon was 9% lower under solar panels than in the gaps between panels; particulate organic matter was 29.1% lower under solar panels than in the gaps between panels and 23.6% lower than in the control pasture land. The report concluded that reduction in solar radiation and changes to microclimate caused by solar panels may be driving lower plant productivity and growth.

The Applicant said that the 2025 report recognises that solar farms can be designed and managed to deliver positive soil outcomes. However, this is heavily caveated in a further paper by the same author entitled "Enhancing soil carbon in solar farms through active land management: a systematic review of the available evidence" by Fabio Carvalho *et al* in Environmental Research: Ecology Vol 3 Number 4 published 11 November 2024. The paper was based on a review of the available academic literature and suggested that improvement in grassland management could lead to increased soil carbon stocks but that soil carbon responses are highly context-dependent. In addition, soil properties can be slow to respond to changes in management practices following land use conversion.

Any improvements to soil properties as a result of land management during the 60 years of operation of the proposed development are therefore likely to decrease with disruption at decommissioning and again at the return to arable cropping.

2.5.12 In conclusion, there are a number of issues such as compaction of the soil, contamination, erosion, soil movement and storage that may well result in permanent damage to the soil resulting in a major adverse environmental impact (IEMA guidelines).

2.6 **Impact on Food Production**

2.6.1 The proposed development will result in the loss of 282.9 ha of BMV agricultural land and 702.4 ha of Grade 3b agricultural land (in addition to the 53 ha of agricultural land excluded from Table 12-15 referred to in paragraph 2.2 above). The Applicant has failed to consider the impact of the loss of this agricultural land for food production. Whilst footnote 62 has been removed from the NPPF, the loss of productive food producing agricultural land remains a material planning consideration. NPS EN-1 paragraph 5.11.34 states that "where schemes are to be sited on BMV agricultural land the Secretary of State should take into account the economic and other benefits of that land" which would include the use of such land for food production.

2.6.2 Policy 67 of the Central Lincolnshire Local Plan seeks to protect BMV agricultural land. It states that proposals should protect the BMV agricultural land so as to protect opportunities for food production and the continuance of the agricultural industry.

2.6.3 The danger of losing valuable agricultural land is acknowledged. The Council for the Protection for Rural England (Hertfordshire) have published a paper (2021) entitled "The Problem with Solar farms" which states that land is being taken out of cultivation at the rate of almost 100,000 acres per annum and that as 60% of our food is imported, we need our best land to be productive. This view is endorsed by the Trade and Agriculture Commission Report dated March 2021 which states at paragraph 1.2 "Rural and urban economies depend on farming: bluntly, if we lose farms and farmers, we risk untold damage to local communities and to the stewardship of the land, across every nation on the UK".

2.6.4 The Applicant asserts in paragraph 12.7.83 of Chapter 12 Socio Economics and Land Use (AS-016) that the proposed development will be returned to its previous use following decommissioning and the land returned to the landowners. As part of the DCO the Applicant seeks compulsory acquisition of the freehold of the principal site and if this power is exercised it will not be possible to "return" the land to the owners. The proposed development will be operational for 60 years so the loss of agricultural use is long term and after 60 years there is no certainty that farming would resume on the land. The Secretary of State reinforced this view in the decision letter on an appeal relating to a proposed solar farm at Imolands, Hampshire PINS ref 3006387 dated 30 March 2016:- "The Secretary of State takes the view that 30 years is a considerable period of time and the reversibility of the proposal is not a matter to which he has given any weight. He considers that a period of 30 years would not be perceived by those who frequent the area as being temporary and that the harmful effect on the landscape would prevail for far too long".

2.7 **Cumulative Impact**

2.7.1 The 15 May 2024 Written Ministerial Statement "Solar and protecting our food security and BMV land" requires the cumulative impact on agricultural land to be taken into account as an important consideration:-"We are increasingly seeing geographical clustering of proposed solar developments in some rural areas such as Lincolnshire. When considering whether planning consent should be granted for solar development it is important to consider not just the impacts of individual proposals but also whether there are cumulative impacts where several projects come forward in the same locality".

2.7.2 In paragraph 12.10.5 of Chapter 12 Socio-Economics and Land Use (AS-016) the Applicant sets out the cumulative development schemes which it has taken into account. This list omits the planning application 25/0533/FUL for the 1GW Bess by Navenby Energy Limited at Hill Rise Coleby and the Screening Opinion 23/0584/EIASCR and Scoping Opinion 23/0390/EIASCO for a 400 MW BESS on land north of Green Man Road Navenby.

2.7.3 The Applicant considers the solar farms county wide in its assessment of cumulative effects on agricultural land in Table 12-29 of Chapter 12 Socio-Economics and Land Use (AS-016). This table only includes BMV agricultural land and not the total loss of agricultural land based on the ALC surveys. Some of the information in the table is incorrect. The BMV area for Steeple Renewables is 638 ha and not 774 ha as stated (Table 15.5 Chapter 15 Land Use and Agriculture APP-072B). The BMV area for One Earth Solar is 660.9 ha and not 900 ha as stated (Table 2 App 8.3 ALC Survey Report APP-105). The BMV area for Great North Road is 1093 ha and not 1450 ha as stated (Paragraph 1.4 Appendix A17.1 ALC Part 11 of 2 APP-288). The BMV area of Mallard Pass is 360 ha and not 14.4 ha as stated (Table 5 Appendix 12.4 APP-091 Mallard Pass DCO). The BMV area of Tillbridge is 111 ha and not 60.3 ha as stated (Paragraph 6.2 of Appendix 15-2 ALC Baseline Report APP-116). Meridian Solar has not been included. The table is reproduced below with the correct areas shown and the total area of agricultural land included in each scheme according to the ALC surveys (where available) (excluding land for cable corridors):-

| **Solar NSP** | **BMV land (ha)** | **Total agricultural land (ha)** |
|---|---|---|
| Little Crow | 36.6 | 110.1 |
| Cottam Solar | 48.1 | 1166.4 |
| Tillbridge Solar | 111 | 1330 |
| Gate Burton | 73.6 | 633.8 |
| Steeple Renewables | 638 | 720 |
| One Earth Solar | 660.9 | 1240 |
| West Burton | 199.5 | 756.5 |
| Great North Road | 1093 | 1764 |
| Springwell | 541.2 | 1128 |
| Beacon Fen | 250.12 | 528.17 |
| Heckington Fen | 257 | 522 |
| Temple Oaks | 0 | 350 |
| Mallard Pass | 360 | 817 |
| Leoda | Not yet known | 971 |
| Meridian | Not yet known | 1100 |

| | | |
|---|---|---|
| Fosse Green | 283* | 1070 |
| **Totals** | **4552.02** | **14,206.97** |

*An additional 53 ha should be accounted for being part of the cable corridor that runs through the solar array area - see paragraph 2.2 above

2.7.4 The Applicant asserts that Lincolnshire contains 490,000 ha of farmland and the proposed development and other solar farms in the County will account for only approximately 1.4% of BMV agricultural land (paragraph 12.10.15 of Chapter 12 Socio-Economics and Land Use (AS-016). Lincolnshire makes up 5.4% of the national total of farming land and is therefore a finite and important resource for the country's food production. "Agriculture Across Lincolnshire" commissioned by Lincolnshire County Council dated October 2022 estimated that solar sites then covered 606 ha in the county and that proposed solar sites would cover a further 1,347 ha in the county. Based on the current solar farm applications set out in paragraph 2.7.3 above, those figures are already out of date with at least 14,206.97 ha of agricultural land now proposed for solar farms. The rapidly increasing number of applications for solar farms in the county will result in the proliferation of these developments which will significantly erode the amount of available agricultural land in the county.

## 3.0 Impact on Heritage Assets

3.1 A number of designated and non-designated heritage assets will be impacted by the proposed development the analysis of which the Applicant has set out in Chapter 7 Cultural Heritage (APP-032).

3.2 I do not have the resources to challenge the Applicant's assessment of each heritage asset but as my family home is in Bassingham, I can speak to the Applicant's assessment of the impact of the proposed development on heritage assets in that area.

3.3 Table 7-9 of Chapter 7 Cultural Heritage (APP-032) sets out the summary of sensitive heritage receptors and their value. Bassingham Conservation Area and associated Grade II and Grade II* listed buildings is given a low, medium and high value. Paragraph 7.7.33 of Chapter 7 Cultural Heritage (APP-032) concludes that, following a detailed settings assessment, the changes to the settings of *inter alia* this heritage asset during the operation and maintenance period of the proposed development would not affect it's value, resulting in a neutral significance of effect (not significant).

3.4 Appendix 7-D of Chapter 7 Cultural Heritage (APP-032) is the Detailed Heritage Asset Setting Assessment (APP-127). Paragraphs 3.2 and 3.3 consider the elements of the proposed development which could affect heritage assets and acknowledge that the introduction of solar panels into arable or pasture land will result in a notable change of character but asserts that solar farms have become a more commonplace landscape character type much like polytunnels, greenhouses and golf courses. Whilst this might be true in some areas of the country, it certainly is not the case in this part of Lincolnshire. The imposition of solar arrays and associated infrastructure over 1070 ha of the Principal Site

which is currently traditionally farmed (no golf courses, polytunnels or commercial greenhouses) will indeed amount to the introduction of an incongruous industrialisation of an arable landscape.

3.5 The Applicant goes on to suggest that beyond a certain distance, solar arrays lose definition and assume a "washed-over" appearance, so are perceived as blocks of faded colour within an established agricultural landscape. This analysis fails to consider the impact of the infrastructure that accompanies the solar arrays, such as fencing, lighting columns, the 84-100 solar station compounds (each covering 0.9 ha), the 328 distributed or centralised BESS and associated control room and compounds, the onsite substation up to 13.5 m high in addition to the traffic (as referred to in section 6 below) and noise associated with the site (referred to in section 5 below).

3.6 Paragraphs 4.55 to 4.91 of Chapter 7 Cultural Heritage (APP-032) considers Bassingham Conservation Area and the Listed Buildings contained within and concludes that the proposed development would result in no harm to the significance of the Listed Buildings or the Conservation Area.

3.7 Bassingham Conservation Appraisal adopted December 2016 describes Bassingham as originally an "agricultural settlement with the village being surrounded by flat open - farmland". Paragraph 201 of the NPPF states that the significance of any heritage asset that may be affected by a proposal should be assessed including the setting of a heritage asset and this should be taken into account when considering the impact of a proposal.

3.8 The proposed development will comprise:-

-An array of solar panels, solar station compounds, access points and associated security lighting and fencing on the flat, open, arable fields to the east and west of Clay Lane and along Bassingham Road leading to Thurlby to the west of the Conservation Area. The visual impact of the proposed development on this area is considered further in paragraph 9.4 below.

-An array of solar panels, solar station compounds and associated security lighting and fencing on the flat, open, arable fields to the north of Fen Lane to the north-east of the Conservation Area.

- An array of solar panels, solar station compounds and associated fencing and lighting to the east and west of Bassingham Road (leading to Aubourn) to the north of the conservation area, with the primary substation compound and centralised BESS extending to approx. 7 ha to the east of Bassingham Road. The visual impact of the Proposed Development in this area is considered further in paragraphs 9.6 and 9.7 below.

3.9 This will result in the character to the land on three sides of the Conservation Area changing from open, arable fields to extensive industrialised areas. The Applicant's assessment of the impact of the proposals on the Conservation Area rest on the assessment of the views from and to the Conservation Area and do not consider the change in character of the arable fields which is an important element of the description of the Conservation Area set out in the Appraisal Document. In my opinion, the proposals will have a major

impact to the setting of Bassingham Conservation Area and there will be substantial harm to this heritage asset.

## 4.0 Ecology- Impact on bats

4.1 Section 8.12 Significance of Effects (with avoidance and embedded mitigation) of Chapter 8 Ecology and Nature Conservation (APP-033) considers the potential impact of foraging/commuting bats by the presence of solar PV panels. The Applicant states that "there is limited scientific literature available on the impacts to bats from solar farms" (paragraph 8.12.29).

4.2 The three research papers cited by the Applicant are dated some years ago, the first is a review of the evidence available in 2017 and concludes that there is a lack of scientific literature on the effect of solar arrays on bats (C Harrison *et al* 2017 "Evidence Review of the impact of solar farms on birds, bats and general ecology" published by Natural England). The second paper (H Montag *et al* 2016 "The Effects of Solar Farms on Local Biodiversity: A comparative study" Clarkson and Woods and Wychwood Biodiversity) compared the impacts on biodiversity on 11 solar farms with nearby control plots and noted there was a "significantly higher total number of bat passes on the control plots when compared to solar". The final research paper cited by the Applicant is R Taylor *et al* "Potential ecological impacts of ground mounted photovoltaic solar panels" 2019 In BSG ecology (online) (accessed 23.8.25) which noted that whilst studies such as Grief *et al* 2017 "Acoustic mirrors as sensory traps for bats" In Science 357 1045-1047 found that bats can mistake horizontal surfaces for waterbodies and vertical surfaces for open flight paths, there was no evidence to suggest that this would result in collisions in the context of tilting solar panels.

4.3 The research cited by the Applicant fails to acknowledge other academic work that is relevant to assessing the impact of solar farms on bats:-

### 4.3.1 **Artificial lighting**

V Eavery 2023 "The impacts of artificial lighting on Bat Behaviour, particularly along waterways" In British Islands Bats Volume 4 2023 36-45 is a review of the research into the effect of artificial lighting at night (ALAN) on bats which as nocturnal creatures are particularly vulnerable to the detrimental effects of ALAN as they have spent millenia adapting to survival in dark conditions. ALAN has the potential to impact bat species in different ways. The attraction of insects towards lights provides a unique chance for resource exploitation for bats in the form of increased feeding opportunity however, some species of bats avoid lit areas because there is a greater perceived predation risk from predators such as owls (G Jones and J Rydell 1994 " Foraging strategy and predation risk as factors influencing emergence time in echolocating bats" In Philosophical Transactions of the Royal Society B: Biological Sciences 346:445-455) in artificially lit areas compared to darker alternative foraging locations. Thus some bat activity is decreased in artificially lit areas. Studies also suggest that ALAN can cause habitat fragmentation through some species aversion to lit areas. It can prevent them from reaching their preferred insect-rich foraging locations and increase their energy expenditure by diverting to take longer, darker routes.

4.3.2 **Noise**

There has been research on the effect of anthropogenic noise on animals such as P. Hansjoerg and R Schmidt "The effects of anthropogenic noise on animals: a meta-analysis" In Biology Letters Vol 15 Nov 2019. The paper states "Noise affects many species of amphibians, arthropods, birds, fish, mammals, molluscs, and reptilians. Anthropogenic noise must be considered as a serious form of environmental change and pollution as it affects aquatic and terrestrial species". According to the World Health Organisation, noise is one of the most hazardous forms of pollution, and has become omnipresent in aquatic and terrestrial ecosystems. Noise may affect communications, distribution and foraging including the hunting efficiency of bats.

In a study of the Antrozous pallidus bat, it was noted that the bats did not demonstrate an ability to acclimate to the noisy environment. Whilst they showed an increased willingness to hunt in the noise over time, they did not show an increase in efficiency at hunting in noise; that many bats probably avoid noisy areas but with ever expanding cities, roadways and energy extraction fields, "it is possible that at some point, acoustically orientated predators simply would not be able to fly far enough" (Allen L.C *et al* 2021 "Noise distracts foraging bats" In Proc. R. Soc.B 288 20202689).

In a study of Daubenton's bats, noise did not mask prey echoes but acted as an aversive stimulus that caused avoidance responses, reducing foraging efficiency (Luo J *et al* 2015 "How anthropogenic noise affects foraging" In Glob. Change Biol. 21(9) 3278-89). In a study of the reaction by Myotis myotis to anthropogenic noise and natural ambient noise, it was considered likely that bats foraging 50m from a highway or other sources of intense broadband noise would be impacted and these foraging areas would be degraded. (Schaub A. *et al* 2008 "Foraging bats avoid noise" In J Exp. Biol. 2008 211(12) 3174-80).

Compressor stations associated with natural gas extraction which operated continuously caused a 70% reduction in activity for an assemblage of bats which emitted low frequency echolocation calls (Bunkley J P *et al* 2015 "Anthropogenic noise alters bat activity levels" In Glob. Ecol.Conserv. 2015 3 62-71).

Non-natural, unfamiliar or unpredictable noise exceeding 50dB$L_{max}$ at 8+ kHz within a roost could begin to have deleterious effects (eg increased stress) (Reason P. and Bentley C. 2020 "Noise impacts on Bats: A sound assessment" In Practice CIEMM Issue 108 June 2020).

West E W 2016 "Technical Guidance for assessment and mitigation of the effects of traffic noise and road construction noise on bats" California Dept of Transportation Sacramento suggests that all areas that would be subject to noise levels above the baseline should be assessed for the likelihood of impact.

4.3.3 **Habitat Fragmentation**

4.3.3.1 Fragmentation of bat habitat resulting from removal, obstruction, or disturbance of commuting routes can result in bats being isolated from a roost or important foraging grounds, or from seasonal resources such as swarming or hibernation sites. Alternative

commuting routes may cover greater distances, requiring the bats to expend more energy and potentially reduce their fitness (Fure A. 2012 “Bats and lighting-6 years on” In The London Naturalist 91, 69-88).

4.3.3.2 Hedgerows are used as commuting routes by bats and in Table 8-13 “Summary of Embedded Mitigation” in Chapter 8 Ecology and Nature Conservation (APP-033), it is stated that, in relation to hedgerow habitats “Small areas of hedgerow and scrub will be lost, mainly for access widening”. In Table 8-15 of Chapter 8 Ecology and Nature Conservation (APP-033) “Determination of potential impact and effects” in relation to hedgerow habitats (page 154) it is noted that there will be a “loss of sections of hedgerow and scrub during construction”. In the same Table at page 164 in relation to bats, the Applicant asserts that “there will be some minor temporary short term hedgerow loss for the Cable Corridor, new fence lines and accesses that is unlikely to adversely affect bats”.

4.3.3.3 Nowhere in Chapter 8 Ecology and Nature Conservation (APP-033) is there any mention of the extent of the loss of hedgerows during construction. The Hedgerows Plan (AS-013) shows sections of hedgerow that are to be removed during construction but it is difficult to make an overall assessment from these. It is only tucked away in the draft DCO (APP-016) Schedule 11 that we see a list of all the hedgerows to be removed, even then no total is given. Using the information in Schedule 11, the total amount of hedgerows to be removed is 1985m, nearly 2 kilometres. The Applicant has obfuscated the data so as to make it extremely difficult to have a clear picture of the impact of the proposed development. The reference to small areas of hedgerow being lost is misleading, there are sections up to 143 m that are to be removed. The loss of hedgerows is described as “temporary” and “short -term”. On the contrary, the hedgerows that are being removed will be lost permanently. The Applicant may well be proposing new planting elsewhere but this will take 10 years or more to reach maturity. In the meantime, the commuting routes for bats along these hedgerows will be disrupted and potentially will have an adverse impact on bat populations.

4.4 In paragraph 8.12.30 of Chapter 8 Ecology and Nature Conservation (APP-033) the Applicant refers to the study by Tinsley *et al* (2023) “Renewable Energies and biodiversity: Impact of ground mounted solar photovoltaic sites on bat activity” In Journal of Applied Ecology Nov 2023. The Applicant acknowledges that the study found that bats avoided fields with solar panels. The study concluded that “the implication of these findings for bat conservation are considerable and understanding why solar PV sites are negatively affecting bat species is crucial as has been done for other renewable energies….”. In paragraph 8.12.31 of Chapter 8 Ecology and Nature Conservation (APP-033) the Applicant seeks to distinguish this study of 19 small scale solar schemes with large scale DCO schemes such as Fosse Green where there will be embedded mitigation as set out in Table 8.13 of the Chapter. This provides for the retention and avoidance of the majority of peripheral and boundary habitats such as “woodland, hedgerows, grassland margins and ditches”. The sampling in the Tinsley study was on solar PV sites and control sites that were matched “in plot size, habitat type, land use and boundary habitats. Field boundaries corresponded to hedgerows, treelines, woodland or vegetated ditches and were exactly matched”. Included in the models landscape were variables that could potentially affect bat activity in the agricultural landscape, including the proportion of urban, arable land, grassland, broadleaf

woodland and Euclidean distance to the nearest watercourse. Despite the matching of solar and control sites and the surrounding landscape character, the bats still avoided the solar fields. The reasons for the bats avoidance of the solar fields is not understood and therefore the proposal by the Applicant to provide "embedded mitigation and habitat compensation and enhancement" to negate any avoidance behaviour is not based on any evidence that this will result in a negligible impact in EIA terms.

4.5 One of the authors of the Tinsley study, [redacted], Professor of Biological Sciences at Bristol University has published a further paper in The Conversation 9 August 2023 in which he says that rethinking the siting of these solar sites so that most are placed on buildings or in areas that are rarely visited by bats, could limit their impact on bat populations.

4.6 There is some evidence that the mitigation strategies to limit the impact of large developments such as solar, on flora and fauna are not working. The Gwent Levels Post construction monitoring report dated 8 July 2024 published by Arup on behalf of the Welsh Government was a post construction monitoring study of five large development sites, including Llanwern Solar Farm, within and adjacent to the Gwent SSSIs. The purpose of the study was to assess whether the biodiversity impacts of the developments had been successfully identified and mitigated. The conclusion was that across the five sites, the poor performance in delivering net benefits for biodiversity was due to a lack of successful implementation and delivery of mitigation, monitoring and management plans by the developer/land owner.

4.7 Specifically, in relation to Llanwern Solar farm, this development of 145 ha had been granted planning permission on 8 November 2018 by Newport City Council and constructed in 2020. At the same time as the Welsh Government study, an Ecological Monitoring and Review Year 3 and Terrestrial Invertebrate Monitoring (2023) Report had been submitted to Newport City Council under planning application reference 24/0293 in support of the application to discharge planning condition 14 ecological monitoring of the original planning application for the solar farm ref 18/1201. These reports concluded that there was a need to implement an "adaptive management approach" to ensure that objectives were achieved. For example, the monitoring of the off-site Lapwing Conservation Area showed no breeding lapwing present and a decrease in lapwing compared to the baseline. Contingency requirements were also applicable to other ecological features such as bats as only one bat box was found to be occupied.

4.8 On 17 July 2025 [redacted] the CEO of Gwent Wildlife Trust said of the Welsh Government Monitoring Report:-
"These findings show, unequivocally, that mitigation measures to protect wildlife within the fragile and complex wetland ecosystem of the Gwent Levels SSSI, have failed catastrophically" (Gwent Wildlife Trust website accessed 12.9.25).

4.9 Given that:-
a) there is recent research that bats are negatively affected by ground-mounted PV sites and the reasons for this are not understood,
b) the bat surveys carried out by the Applicant indicate the presence of an assemblage of species of national importance (Table 2 App 8-I AS-088),

c) there is no evidence that the proposal by the Applicant to provide habitat compensation and enhancement will result in a negligible impact on the bats from the proposed development in EIA terms. On the contrary, post development monitoring by the Welsh Government on large scale developments in the Gwent Levels show that biodiversity mitigation strategies have failed.
d) the Applicant proposes to destroy 1,985m of hedgerow which provides commuting routes for bats,
e) the Applicant has failed to consider the impact of noise, lighting and habitat fragmentation on roosting and foraging/commuting bats,

the application for DCO should not be granted.

## 5.0 Noise

### 5.1 Public Rights of Way (PRoW)

5.1.1 The Applicant has considered noise from the proposed development (Chapter 11 Noise and Vibration APP-036) and has scoped out of the assessment any noise arising during construction, operation and decommissioning along the Public Rights of Way (PRoW) within the application site (Paragraph 11.4.18). The extensive number of PRoW within the proposed development are shown on Figure 2.2 (AS-020). The reason stated for excluding such noise assessment is that due to the linear nature of PRoW and the transient usage it is not anticipated that there would be a material change in the experience of using the PRoW which would affect the health or quality of life of the users of the PRoW.

5.1.2 Whilst PRoW are linear in nature, they often join with other PRoW to form circular routes, for example the Bassingham and Villages Stepping Out Walk. The Stepping Out Walks span some 130 miles across North Kesteven comprising 28 separate walks promoted by North Kesteven District Council in association with Hill Holt Wood. Details of the Stepping Out Walk routes are available on the Hill Holt Wood website. The route of the Bassingham and Villages circular walk is shown on the plan at Fig 1 and includes Clay Lane from Norton Disney to Bassingham. As shown on the Work Plan (Sheets 8 and 9) AS-006, the eastern side of most of the length of Clay Lane will be covered in solar arrays.

Fig 1 Route of the Bassingham and Villages Stepping out Walk

5.1.3 Part of the Bassingham and Villages Stepping Out walk includes a network of ProW to the west of Bassingham (which form a circular route from Church Bridge including Clay Lane). It is a well used network of footpaths, for example I travelled along this route on a sunny Sunday between 12.00 and 12.30 on 7 September 2025 when I met 2 cyclists and 8 walkers. The route of the circular walk is shown on the plan below:-

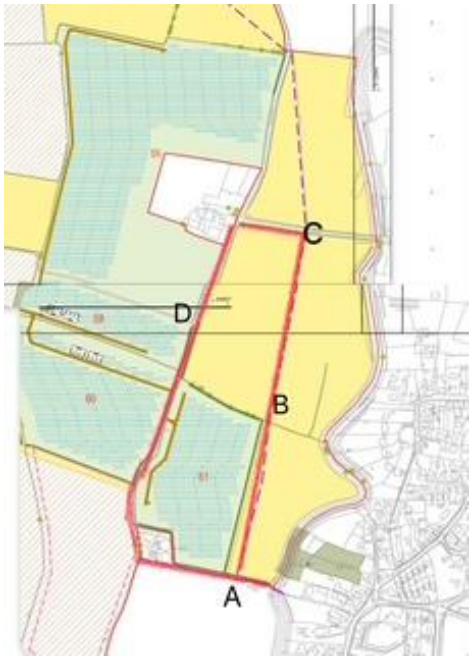


Fig 2 Circular walk from Church Bridge Bassingham

The starting point is at Church Bridge.
Travel west along LL/NoDi/1/1 from Church Bridge (part of the Bassingham and Villages Stepping out walk)
Turn north at point A along LL/NoDi/4/1 and along LL/ThuN/5/1 to Thurlby Road (point C)
Turn west along Thurlby Road
Turn south along Clay Lane
Turn east along LL/NoDi/1/2 (part of the Bassingham and Villages Stepping out walk)

Plate 1 Point A on Fig 2 looking north-east towards the village

Plate 2 Point A on Fig 2 looking towards Church bridge

Plate 3 Point B on Fig 2 looking west across the fields towards Clay Lane

Plate 4 Point B on Fig 2 looking north east towards the village

Plate 5 Point C on Fig 2 Junction of Thurlby Road and LL/ThuN/5/1 looking south along the footpath

Plate 6 Point D on Fig 2 looking east towards Bassingham across open fields

Plate 7 Point D on Fig 2 looking south along Clay Lane

Plate 8 Point D on Fig 2 looking south west across the fields

5.1.4 Also on a circular route is the Thorpe on the Hill Stepping Out Walk of 4.5 km “through woodland and open countryside with lots of hedgerow birds and lovely views back to the village”. A suggested short cut is from point 3 back towards the village.

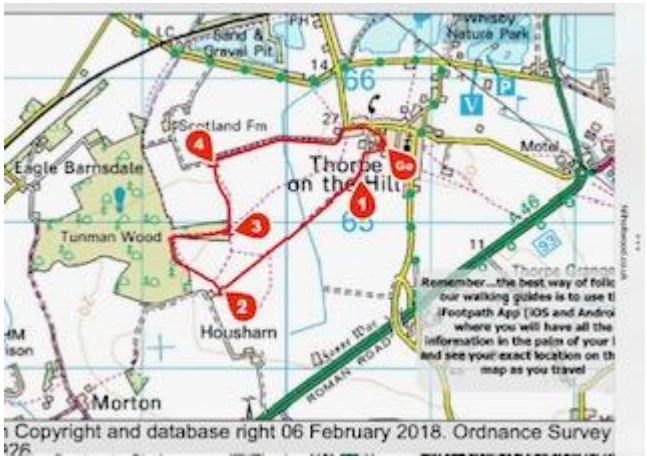


Fig 3 Route of the Thorpe on the Hill Stepping out Walk

5.1.5 As part of the Springwell DCO application, in response to the ExA question about usage of the Stepping Out network and impact on Tourism, Q1.12.3, North Kesteven District Council explained that walking is identified as a key reason for visiting North Kesteven in the Council’s Tourism strategy 2024-29 and the promotion of walking routes is recognised as an ongoing action within the Tourism Action Plan; that during 2024-25, 7594 people walked the Thorpe on the Hill Stepping out walk (REP1-103).

5.1.6 The route of the circular walk shown with a green line (the suggested short cut is shown with a dotted green line) has been superimposed on the Applicant’s noise contour plan with a distributed BESS (Fig 11.3 (AS-063)) illustrating that anyone walking along this route during the operational period of the proposed development will be subjected to noise over a substantial part of the route:-


Fig 4 Route of Thorpe on the Hill Stepping Out walk superimposed on noise contour plan of distributed BESS

5.1.7 Running on a north-south alignment is a series of well used footpaths from Bassingham towards Aubourn along the public footpath LL/Bass/22/1, LL/Bass/21/2, LL/Bass/21/3 and LL/Aubo/8/1. The route of this walk shown with a green line has been superimposed on the Applicant's noise contour plan with a centralised BESS (Fig 11.2 (AS-062):-

Fig 5 Route of the series of PRoW running from Fen Lane Bassingham to Aubourn Moor superimposed on the noise contour plan for a centralised BESS

This demonstrates that anyone using this footpath during the operational period of the proposed development, even though this is a linear walk, will be subjected to noise levels well above the current background levels for a substantial amount of time along most of the length of the footpath.

5.1.8 The users of these PRoW include dogwalkers, visitors and local residents, many of whom are regular walkers. Whilst the users are "transient" in that they are passing along the ProW, their experience of the use and enjoyment of the PRoW will be destroyed by noise and disturbance along the whole of the length of the route of the walks and therefore lasting for a substantial time, arising from:-

a) construction activities during the proposed 24-30 months construction period, including works to create new accesses along Clay Lane, Thorpe on the Hill (Sheet 2 Works Plan AS-006), Clay Lane, Bassingham (Sheets 8 and 9 Works Plan AS-006), Fen Lane, Bassingham (Sheet 10 Works Plan AS-006) and Aubourn Moor (Sheet 6 Works Plan AS-006), construction of main substation and centralised BESS (Sheet 6 Works Plan AS-006) as well as the work to construct the solar arrays and associated infrastructure adjacent to these PRoW. Appendix 11-D is the Construction and Operational Noise modelling (APP-159). Table 1 sets out the sound pressure levels of various plant and equipment used during activities such as construction of inverters and transformers (up to 112 dBA), construction of PV modules (up to 106 dBA), construction of BESS and substation (up to 113 dBA). It is accepted that the plant will be mobile but during the construction activities, noise levels along the PRoW will be above existing baseline noise levels and will therefore negatively impact the users of the PRoW. In addition to the noise from construction plant, there will be noise and disturbance from the construction traffic, see section 6 below.

b) the operational phase of the development arising from noise emitted from the inverters (61dBA), BESS battery containers (72dBA) and substation transformers (95dBA) (Paragraph 5.2.1, 5.3.1 and 5.4.1 of Appendix 11-D (APP-159 refers). Fig 11.2 (AS-063) illustrates the noise contours from the operational phase with a centralised BESS and Fig 11.3 (AS-062) the noise contours from the decentralised BESS. The majority of the walk along the footpaths from Fen Lane to Aubourn Moor with **either** version of the BESS layout will be adversely affected by noise. Similarly, the users of the Thorpe on the Hill PRoW will be adversely affected by operational noise with the distributed BESS.

5.1.9 In conclusion, the users of PRoW will be adversely affected by the noise from construction and operational activities associated with the proposed development and the Applicant has failed to consider this impact. The World Health Organisation "Guidelines for Community Noise" (1999) set out in Table 1 of the guidance states that outdoors, in parkland and conservation areas (which aligns with the PRoW), the adverse health effect from noise is the "disruption of tranquillity" and that "existing quiet outdoor areas should be preserved and the ratio of intruding noise to natural background sound should be kept low".

**5.2 St Michaels and All Angels**

The noise impact on St Michael and All Angels Church, Bassingham is considered in Chapter 11 Noise and Vibration (APP-036) and it is acknowledged that the church is a non-residential noise sensitive receptor (paragraph 11.4.66 refers). Design criterion from BS 8233 is a range of 30-35 dB $dBL_{AeqT}$ within the building. The assessment is that with "doors and windows" open there would be a sound attenuation of 30dBA from external noise from the building's insulation, so that the design criterion would be exceeded if external noise exceeded 65 $dBL_{AeqT.}$ In paragraph 11.7.6 it is acknowledged that construction noise levels of up to 65 $dBL_{AeqT}$ are predicted. Whilst these noise levels are on the threshold for significance inside the church, the assessment has failed to consider the impact of this level of noise within the churchyard. Many church services such as weddings and funerals include a processional element with arrival and departure from and to the church building through the churchyard. In addition, many residents and visitors to the church visit the graveyard around the church

for quiet thought and contemplation and for these moments to be disturbed by the noise from construction activities such as HDD would cause significant harm.

5.3 The Applicant has outlined mitigation measures to reduce the impact of noise in paragraph 11.6.3 of Chapter 11 (APP-036). These include b. all contractors should be familiar with legislation and guidance, m. unnecessary revving of engines will be avoided, n drop heights of materials will be minimised and o. plant and equipment will be sequentially started. These measures are impractical and unenforceable. For example, will all contractors have to pass a test to demonstrate their knowledge of BS5228?

## 6.0 Traffic and Transport

6.1 Paragraph 2.10.27 of EN-3 states that applicants need to consider the suitability of access routes especially for construction traffic. At paragraphs 13.7.5 and Table 13-23 of Chapter 13 Traffic and Transport (APP-038) the Applicant calculates that there will be a daily total of 100 HGV trips, 50 LGVs trips, 36 Shuttle Bus trips and 416 construction worker vehicles associated with the Principal Site, a total of 602 trips. (The figures in this table do not match the figures given in Table 3 of the Framework Construction Traffic Management Plan (AS-102) where the total trip figure is given as 598). The Applicant says that the vehicle trips will be split across 13 access points, with the % of trips to the Principal Site shown for each access point at Table 13-25. The proposed HGV routing plan also showing the proposed access points is at AS-072.

6.2 The proposed access points C-011 and C-012 are on Clay Lane, a narrow single track country lane with passing places which the Applicant calculates will be accessed by 10% of the staff trips and 10% LGVs trips during construction (Table 13-25 of Chapter 13 Traffic and Transport (APP-038)). The impact of the use of these accesses by construction traffic is shown on Table 13-26 of Chapter 13 Traffic and Transport (APP-038). Each day between 7.00 am to 8.00 am and again between 6.00pm and 7.00pm there will be 83 vehicle movements, an increase of 658% from baseline traffic flows in the morning and 1096.8% in the evening. There will be 166 additional vehicles movements per day from construction traffic. This single track lane is unsuitable for the projected level of vehicle movements each day during construction, see Plate 7.

6.3 Access point C-009 is between two sharp bends on the Bassingham Road and access point C-010 is further south on the Bassingham Road leading from Aubourn to Bassingham. Bassingham Road is a rural single carriageway road with a single lane in each direction. Access points C-009 and C-010 will be accessed by 15% of the staff trips, 15% of LGV trips and 17% HGV trips (Table 13-25 of Chapter 13 Traffic and Transport (APP-038)). The trips to and from the two access points C-009 and C-10 will be to/from the north through Haddington or Aubourn or to/from the south through Bassingham along Bassingham Road. Table 13-26 of Chapter 13 Traffic and Transport (APP-038) shows that along Bassingham Road (ref L13) the existing traffic flow between 7.00 am and 8.00 am will increased by 84.4% during construction. At paragraph 13.4.67 of Chapter 13 Traffic and Transport (APP-038) the Applicant says that only a small proportion of trips are expected to pass through Thorpe on

the Hill, Haddington or Bassingham and yet the proposed HGV routing runs through Haddington village (AS-073).

6.4 The Applicant has applied the Institute of Environmental Management Assessment Guidelines for assessing the potential impact of traffic during the construction phase of the proposed development (paragraph 13.4.19 of Chapter 13 Traffic and Transport (APP-038)) and concludes that there no significant impacts as a result of the proposed development. However, those guidelines do not take into account disturbance to residents from increased traffic movements. As demonstrated above there will be significantly increased amounts of traffic through the villages such as Bassingham, Aubourn and Haddington.

## 7.0 Risk and effect of fire and explosion at BESS

7.1 An Article by Professor Peter P Edwards and Professor Peter J Dobson “Remarks on the Safety of Lithium-Ion Batteries for Large-Scale Battery Energy Storage Systems (BESS) in the UK” published in Fire Technology online on 21 December 2024 highlights that lithium-ion batteries (LiBs) are inherently unstable; that failure is usually by thermal runaway; fires are intense and self-propagating; firewater run-off is toxic and needs to be contained; if the contaminated firewater was to get into aquifers, it could have a detrimental effect for decades; that there is no clear legislation for the control of LiBs. The conclusion is that there should be a moratorium on LiBS until adequate safety regulations are in place.

7.2 Paragraph 1.1.2 of App 14-G Unplanned Emissions Assessment (APP-176) states that the likelihood of any thermal runaway incident is “unlikely”. This assertion is not borne out by the number of well publicised Lithium-ion failures, some of which have led to deaths and serious (life changing) injuries to first responders called to handle the incident. Already in 2025 there have been a number of BESS fires in the UK. On 29 January 2025 a lithium battery factory fire at Claregalway Corporate Park in County Galway started at 7.15 am with the fire crews still on site on 31 January 2025 (The Irish Times). Five firefighters were hospitalised. On 19 February 2025 a fire broke out at a 300MW BESS under construction in East Tilbury and was finally brought under control within 24 hours (Essex FRS). On 21 February 2025 a fire broke out at a 50MW BESS under construction near Rothienorman in Aberdeenshire. On Friday 28 March 2025 a fire broke out at a solar farm near Cirencester where residents were being warned by the Fire and Rescue Services to keep doors and windows closed.

7.3 The special hazards involved with lithium- ion batteries have been highlighted in a report by the Arizona Corporation Commission in USA dated 2 August 2019 (Docket number E-01345A-19-0076) relating to an incident at the APS Elden Substation facility. The report states:-

> “The Flagstaff Fire Department Report references fires with 10-15' flame lengths that grew into "flame lengths of 50-75'," with the fire "appearing to be fed by flammable liquids coming from the cabinets." The Flagstaff Fire Department Report for the 2012 incident also states concerns about "a serious risk of a large-scale explosion" and "the cabinets involved are full of lithium batteries that are extremely volatile if they come into contact with water." Knowing now how easily a fire and/or explosion can

evidently occur at these types of relatively small (2 MW) lithium-ion battery facilities, it appears that a similar fire event at a very large lithium ion battery facility (250 MW+) would have very severe and potentially catastrophic consequences, and that responders would have a very difficult time trying to handle such an incident.
To appropriately plan for such a catastrophic event, the large-scale lithium ion battery facility using the same chemistries as the APS Elden Substation (Flagstaff) facility fire and the McMicken facility would need to be built in isolation far from everything else, because an explosion could potentially level buildings at some distance from the battery facility site. The energy stored at a 2 MW battery facility is equivalent to 1.72 tons of TNT. The energy stored at a 250 MW battery facility is equivalent to 215 tons of TNT. Also, large amounts of hydrogen fluoride could be released and dispersed that would affect and harm the public at a substantial distance downwind. There would be concerns also about lingering hydrogen fluoride contamination in the affected areas."

7.4 The Unplanned Emissions Assessment (APP-176) seeks to demonstrate that the release of Hydrogen Fluoride (HF) (being the most toxic and the most prevalent compound within the batteries) in the event of a fire would not impact any residential premises. The conclusion is that in the event of a fire in one cabinet of a BESS container, HF emissions above AEGL-1 would be present up to 200m from the fire. This is on the basis of the release of a maximum of 2kg of HF from one cabinet.

7.5 This modelling assumes that a fire would be restricted to one cabinet of a BESS container. However, the current 2023 NFCC guidelines require that battery containers should be separated by a minimum of 6m unless suitable design features can be introduced to reduce that spacing. This acknowledges that there is a risk that any fire could spread from one battery container to the next. The Applicant has therefore failed to consider the impact of such a fire. (Although the LFR have apparently advised that the draft revised NFCC guidance should be incorporated into the site design (paragraph 1.5.3 of the Framework Battery Safety Management APP-198), the NFCC website (accessed 13.9.25) advises that until the new guidance is published, the 2023 guidance remains current).

7.6 In the distributed BESS, the BESS containers are to be sited within the solar compounds. The location of these is shown on Appendix A Figure 7.15-1 of the Framework Landscape and Ecological Plan (AS101). Sheet 6 shows solar stations on opposite sides of the road from Aubourn to Bassingham. In the event of a fire in one of the BESS containers here, the smoke and flames will inevitably cause a danger to any vehicles travelling along this road.

7.7 The debate in the House of Commons on Battery Energy Storage Systems: Safety Regulations (Hansard 5 June 2025 vol 768) highlighted the lack of current regulation for BESS and the potential catastrophic consequences of a BESS fire, not only in terms of loss of life but also the pollution of the air and water. A number of MPs called for a pause on the roll-out of BESS until enforceable national regulations for their design and construction are in place:-
Sir Alec Shelbrooke- " I recommend a pause on approving planning applications until we fully understand what mitigation could be put in place for disasters, which unfortunately do happen".

Jamie Stone “We should not simply forge ahead with this stuff until we know exactly what we are doing”.
Sarah Bool “I ask that the Government immediately pause the roll-out of these sites until a proper regulatory framework is in place”.
Nick Timothy “Building these sites and trying to deal with the safety questions later is reckless, expensive and dangerous”.
Bradley Thomas “If I had 3 asks of the Government, they would be 1) that they pause the granting of BESS applications in the first instance”.

Given the lack of enforceable regulations on the layout and design of BESS and the potentially devastating consequences of a BESS fire, it is submitted that the application for a DCO should be refused.

## 8.0 Water

### 8.1 Effects of Firewater on Groundwater

8.1.1 Paragraph 9.5.74 of Chapter 9 Water Environment (APP-034) states that the area from Bassingham to the A46 is a Drinking Water Protected area (Surface Water). The Applicant has failed to mention that the remainder of the order limits is within a Drinking Water Protected area (Groundwater). Both types of protected areas are identified as used now or may be used in future, for abstracting water for drinking, cooking, preparing food or in food production businesses. These areas are shown on the Anglian River Basin District River Basin Management plan produced by the Environment Agency and updated 2022. (The River Basin Management Plan is made in accordance with the Water Framework Directive which originates from the European Union but which has been incorporated into English Law by the Water Environment (Water Framework Directive) Regulations 2017). Paragraph 7 of the current condition and environmental objectives chapter of the plan states that hazardous substances must be prevented from entry into groundwater.

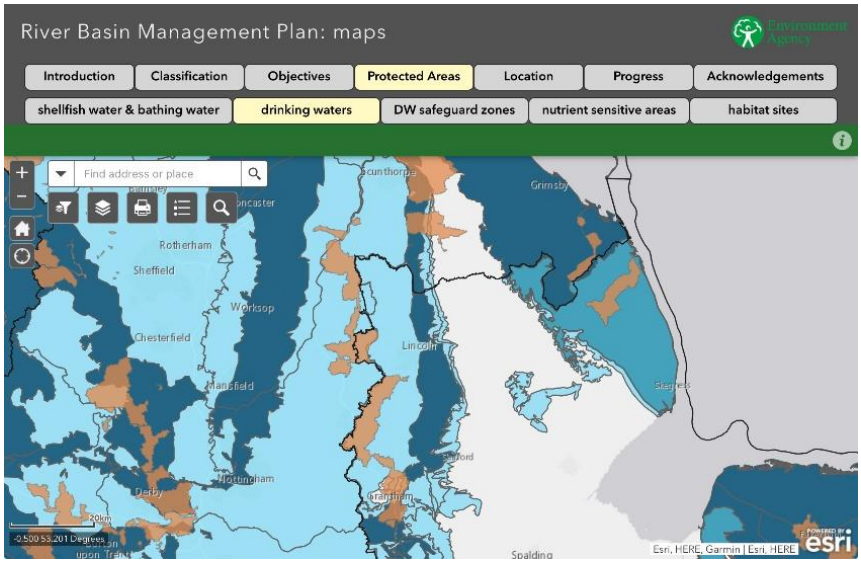

Fig 1 Anglian River Basin District River Basin Management plan produced by the Environment Agency and updated 2022

8.1.2 Paragraph 9.4.12 of Chapter 9 Water Environment (APP-034) acknowledges that there is potential for impact on groundwater or surface water from firewater runoff in the event of a BESS. Highly polluting chemicals in batteries could enter the groundwater in firewater or rainfall should battery containers become exposed in the event of a fire.

8.1.3 Paragraphs 9.4.62 and 9.4.63 of Chapter 9 Water Environment (APP-034) set out that the Applicant will store water for fire fighting in water tanks and that fire water runoff would be contained in impermeable swales surrounding the BESS areas, which would then be held and tested before either being released or, if found to be contaminated, taken off site by tanker.

8.1.4 At paragraph 9.6.70 of Chapter 9 Water Environment (APP-034) the Applicant sets out the details of the storage capacity of the swales and this is based on the NFCC design guidance that firefighting supplies should be capable of delivering no less than 1900 litres of water per second for at least two hours. The Applicant has designed the swales to store this **minimum** amount as set out in the NFCC guidance together with an additional 30% capacity to take account of any existing rainwater within the swales and an additional amount to take account of a 1 in 2 year storm event. The final storage figures are set out in Table 13 of the Framework Surface Water Drainage Strategy (APP-147).

8.1.5 The advice of West Yorkshire Fire and Rescue Authority to Leeds City Council in relation to a planning application for a 50 MW BESS at Westfield Road Leeds (Ref 23/00450/FU) in a letter dated 20 March 2023, was that using a 2 ground monitoring attack for 24 hours would require 5.5 million litres of water and the run off would likely have a significant impact on the surrounding area. In the event that such huge amounts of water are required to fight a BESS fire, it is unlikely that the contaminated fire water run off could be contained within the swales as the Applicant proposes.

8.1.6 At paragraph 4.3.6 of the Framework Battery Safety Management Plan (APP-198) the Applicant states that the LFR are expected to employ a defensive strategy ie boundary cooling of adjacent BESS. The Applicant goes on to say that the NFCC guidance states that “If it can be confirmed that the recommended firefighting tactic for the BESS is to defensively fire fight and boundary cool whilst allowing the BESS to consume itself, this will reduce the water requirements and thus the drainage /environmental protection requirements accordingly”. This quote is not from the current NFCC guidance, it is taken from the draft revised guidance. The current NFCC guidance similarly states “in the majority of cases, initial firefighting will focus on defensive firefighting measures to prevent fire spread to adjacent containers”. However, there is no suggestion in the current guidance that this would reduce the water requirements which, as West Yorkshire Fire Service have advised (see paragraph 8.1.5 above), may require millions of litres of water.

8.1.7 In paragraph 4.5.7 of the Framework Battery Safety Management Plan (APP-198) the Applicant states that a BESS fire would typically be a relatively short-term incident. This is an understatement in the light of evidence of actual BESS fires referred to in paragraph 7.2 above.

8.1.8 In conclusion, the Applicant has understated the amount of water that may be required to bring a BESS fire under control. The Applicant's proposal to provide water tanks which would provide 1,900 litres of water for 4 hours is inadequate in the light of the advice of West Yorkshire FRS to Leeds City Council in relation to a planning application for a 50 MW BESS at Westfield Road Leeds (Ref 23/00450/FU). Potentially millions of litres of firewater runoff could not be contained in the swales as proposed by the Applicant. There is a potential risk to groundwater quality from the release of firewater from the proposed BESS. The proposed BESS does not therefore comply with Policy S21 of the Central Lincolnshire Local Plan as it is proposed to be constructed in a location where in the event of a BESS fire there will be a risk of contamination to groundwater in breach of the Water Framework Directive.

**8.2 Contamination of groundwater from solar panels and disused batteries**

8.2.1 The inspection, maintenance and repair of the solar panels is referred to in WAT-05 of Table 6 of section 3.5 Water Environment of the Framework Operational Environmental Management Plan (APP-190) where mitigation/enhancement measures includes "regular inspections and maintenance of all equipment" to ensure that the structural integrity of the panels will be regularly observed and that any panels which require maintenance or replacement will be removed before there is any leakage of chemicals from the sealed units. The detailed OEMP will include a regular schedule of visual inspections of the panels.

8.2.2 Paragraph 2.2.7 states that there will be 4 permanent staff on site during the operational period with an additional 2 visitors per week. This suggests that the inspection of the solar panels will be carried out by the permanent staff.

8.2.3 The Applicant appears to accept the point that solar panels contain chemicals and heavy metals that can leach into the groundwater. The United States Environmental Protection Agency website (accessed 26/7/25) states "Hazardous waste testing on solar panels in the marketplace has indicated that different varieties of solar panels have different metals present in the semiconductor and solder. Some of these metals like lead and cadmium are harmful to human health and the environment at high levels". In "Assessing soil pollution concerns in proximity to fence-type solar photovoltaic system installation" (Hasnain Yousuf *et al* in Heliyon May 30 2024 (accessed 26.7.25)) it is stated that metals such as aluminium and steel commonly employed with the use of PV materials in PV structures may lead to environmental and soil contamination by leaching into the soil. Additionally, water run-off may carry pollutants into surrounding soil and water bodies. PV installations undergo aging and degradation processes over time due to various environmental factors. Long term exposure to sunlight, temperature variations and other environmental conditions can have an impact. Physical damage to solar panels such as breakage or fractures can result in the release of materials including metals into the surrounding environment. Accidental events such as severe weather conditions may also lead to damage and potential metal release. An example of this is the storm damage caused to hundreds of solar panels at the solar farm in Porth Wen on 10 December 2024 (Wales Online 11 December 2024).

8.2.4 The Applicant has failed to provide any level of detail about how frequently the solar panels will be inspected. Assuming that the panels will be inspected on a weekly basis, this means that, given there are either 575,000 fixed south facing solar panels or 510,000 single axis tracker panels (Table 3-1 of Chapter 3 Proposed Development Description APP-028) each of the 4 members of staff during a five-day working week will have to inspect a maximum of 28,750 solar panels each day (575,000÷4÷5). This appears to be a physical impossibility. It is unlikely that at any time all 4 members of staff will be present due to sickness, holidays etc or that all 4 staff will be solely employed to check solar panels. How is the Applicant able to ensure that the panels are "regularly inspected" other than by having either considerably more permanent staff on site or considerably less frequent inspections than once a week? In either scenario there will be environment impacts either from increased traffic and noise from contractors or pollution from damaged solar panels which have not been replaced.

8.2.5 The panels each measure 2.4m by 1.3m (Table 3-1 of Chapter 3 APP-028). Will any damaged panels be immediately dismantled so as to prevent leaching of contaminants into the soil? If so, where will they be stored? If the damaged panels remain in situ until replacement panels can be installed, how long will it take to replace the panels? After the storm at Porth Wen on 10 December 2024, an EDF spokesperson said that the damaged panels would not be replaced until early 2025 (New Civil Engineer - online accessed 26.7.25). If the damaged or replaced panels are to be stored as waste within the order limits there may be implications for the proposed development under the Environmental Permitting Regulations 2016.

8.2.6 Paragraph 3.13 of the Framework Operational Management Plan (APP-016) sets out that it is not proposed to store waste batteries on site and that they would be removed straight away. At the ISH2 on 8 January 2026 (EV4-003) the Environment Agency said that it was now being proposed to store the waste batteries on the site (33:51). Whilst that discussion was around fire prevention, I presume there will also be issues about potential contamination of the land on which the batteries are to be stored. As with the storage of any waste solar panels, consideration should be given to ensuring waste is stored for a limited length of time, that there is a maximum tonnage of waste being stored and that waste should be stored such that contaminants do not leach into the soil.

## 9.0 Landscape and Visual Amenity

9.1 Chapter 10 Landscape and Visual Amenity (APP-035) sets out the assessment by the Applicant of the impact of the proposed development on the landscape and visual amenity.

### Visual Amenity

9.2 Paragraph 5.1.3 above describes the circular walk to the west of Bassingham from Church Bridge. The Applicant has included one viewpoint along this route, Viewpoint 22, the location of which is shown on Fig 10-7 (AS 059) and the photographs are at Fig 10.8 (APP-095). The photographs are erroneously described as looking west from public footpath Bass /1/1 but are taken looking west from LL/NoDi/1/1 (to the west of the Church Bridge).

9.3 Table 10-11 of Chapter 10 (page 88) concludes that there will be a moderate adverse (significant) effect on the recreational users of these footpaths arising during construction and in year 1 of operation (page 111 of Table 10-12) and a minor adverse effect in year 15 (page 134 of Table 10-13) as the proposed hedgerow screening matures, resulting in a "subtle change to the composition of the view". This analysis fails to acknowledge that the current open long range views of the fields to the west, especially along LL/ThuN/5/1 will be obscured by the new hedging around Field 61 (Sheet 9 of Fig 7-15 of the Framework Landscape and Ecological Management Plan AS-101).

9.4 The Applicant has considered the effect on the users of Clay Lane and concluded that there will be a moderate adverse (significant) effect during construction (page 94 of Table 10-11) and also during year 1 of operation (page 115 of Table 10-12) but that by year 15 the effects will be minor adverse (page 138 Table 10-13) as the new hedging will result in a "subtle change from open and long distance to channelled along the road". The Applicant has only considered the effect on motorists using Clay Lane, describing the effects as "at speed and short-lived". As explained in paragraph 5.1.3 above Clay Lane is a quiet country single track lane that is used by walkers and cyclists. The experience of those users will not be at speed and short-lived. The current open and long range views across from Clay Lane to the fields either side of the road (see Plates 6 and 8 above) will be a not so subtle change to a tunnel through hedging on either side of the road (Sheet 9 of Fig 7-15 of the Framework Landscape and Ecological Management Plan AS-101).

9.5 The Applicant has understated the visual effects of the proposed development on the users of Clay Lane and the associated network of footpaths.

9.6 Paragraph 5.1.7 above describes the walk along the network of footpaths from Fen Lane to Aubourn Moor. The Applicant has included two viewpoints along this route, Viewpoints 11 and 17, the locations of which are shown on Fig 10.7 (AS-059) and the photographs are at Fig 10.8 (APP-095). Viewpoint 11- this is looking north-east from public footpath LL/Aubo8/1. Viewpoint 17- this is looking north from public footpath LL/Bass/22/1. The consideration of the visual effects of the proposed development on this route are split:-

<u>Construction</u>
LLAubo/8/1 Major adverse (page 87 Table 10-11)
LL/Bass/22/1, LL/Bass/21/2 Moderate adverse (page 91 Table 10-11)
LL/Bass/21/3 Not mentioned

<u>Year 1</u>
LLAubo/8/1 Major adverse (page 110 Table 10-12)
LL/Bass/22/1, LL/Bass/21/2 Moderate adverse (page 113 Table 10-12)
LL/Bass/21/3 Not mentioned

<u>Year 15</u>
LL/Aubo/8/1 Major adverse (page 133 Table 10-13)
LL/Bass/22/1, LL/Bass/21/2 Moderate adverse (page 136 Table 10-12)
LL/Bass/21/3 Not mentioned

9.7 The Applicant has considered each section of the route in isolation and has thereby minimised the impact of the proposed development over the route as a whole. The major adverse impact which is accepted by the Applicant in relation to the mid section of the footpath will apply to the whole route. The current open views across fields and towards the Lincoln Cliff edge will be blighted by fields of solar arrays. The substation and BESS will be a dominant feature rising to 13.5 m high. Sheets 6 and 10 of Fig 7.15 of the Framework Landscape and Ecological Management Plan (AS101) illustrates the extent of the proposed new hedging along most of the length of the footpath. The Applicant has provided one photograph (Viewpoint 11) near the proposed substation and BESS and this looks along the footpath rather than representing the current views across to the east and west which will be obliterated by the proposed development. The following photographs taken by me on 2 September 2025 from Point A superimposed on Sheet 6 (AS101) as shown below illustrate the views which will be lost:-


Plate 9 Looking east along LL/Aubo/8/1 from Point A -the ploughed field will be covered by solar arrays 3.5 m high

Plate 10 Looking south from Point A along LL/Aubo/8/1 -the field to the right will contain the substation, the field to the left will be filled with solar panels

Plate 11 Looking south east from LL/Aubo/8/1 towards the Lincoln Edge in the distance- the view will be blocked by the solar arrays in the field in the foreground

Plate 12 Looking south west from Point A over fields which will be covered by the substation and BESS

Plate 13 Looking north west from Point A towards Aubourn Church

9.8 The impact of views along Bassingham Road leading to and from Aubourn (the receptor is described as Users of Chapel Lane and Bassingham Road) are considered as follows:-

Construction- (Table 10-11)
Minor Adverse-"glimpses of the assembly of the Onsite Substation and Bess Compound. Views of the construction activities are likely to be experienced at speed and short lived".

Year 1- (Table 10-12)
Minor adverse- "glimpses of the 13.5 m high elements of the Onsite Substation and BESS compound, changes to the view will be subtle".

Year 15-(Table 10-13)
Minor adverse

Motorists will not be driving at speed around the double bend on this part of the road adjacent to the proposed BESS. Cyclists or horse riders using the road will not be travelling at speed so their views of the BESS and substation compounds with transformers rising to 13.5m will be visually obtrusive throughout the operational period. These elements of the proposed development will be seen rising above the hedgerow for a major part of the route along this road.

9.9 As set out above, there will be significant harm to the visual amenity of the users of footpaths and roads in and around Bassingham. Policy S14 of the Central Lincolnshire Local Plan (adopted 2023) states that renewal energy schemes will only be supported where, inter alia, impacts are acceptable having considered the impacts on… visual amenity and that testing compliance with this will be via applicable policies such as a Neighbourhood Plan. Policy ES5 of Bassingham Neighbourhood Plan 2016-2036 provides that any technologies or infrastructure should not detract from the rural, visual and historic character of the village and the surrounding landscape setting and environment. The Applicant has not demonstrated that the proposed development complies with Policy S14 of the Central Lincolnshire Local Plan and Policy ES5 of the Bassingham Neighbourhood Plan.

**Landscape Character**

9.10 Policy S14 of the Lincolnshire Local Plan (adopted 2023) states that renewal energy schemes will only be supported where, inter alia, impacts are acceptable having considered the consequent impacts on… landscape character and that testing compliance with this will be via inter alia the Lincolnshire Local Plan. Policy S5 of the Lincolnshire Local Plan Part E provides that proposals for non-residential development in the countryside will be supported provided that inter alia the rural location of the enterprise is justified by means of proximity to existing established businesses or natural features and the development is of a size and scale commensurate with the proposed use and the rural character of the location. Table 10.15 of Chapter 10 acknowledges that taking account embedded mitigation there will be a major adverse (significant) effect on the landscape in relation to the Principal Site during construction and until year 15 when the effect of the proposed development on the landscape remains moderately averse (significant). There will be an evident change in the land use and character due to the solar panels and associated equipment introducing structures into an arable landscape covering an area of 1070 ha.

**Cumulative Impacts**

9.11 In paragraph 10.10.1 of Chapter 10 the Applicant considers the cumulative effects on landscape and visual amenity in relation to other proposed developments. The Applicant has failed to include in that list, its own application for planning permission for a proposed 400 MW BESS to the south of Green Man Road, Navenby (25/0491/FUL).

9.12 In relation to the cluster of BESS and solar farms in and around the heath area near Navenby, the Applicant comments as follows:-

- Coleby BESS (25/0533/FUL) -at construction and operation there would be no noticeable difference between the landscape and visual effects of the Proposed Development and the cumulative landscape and visual effects of both the Proposed Development and the Coleby BESS.

- Navenby Substation (24/1080/EIASCR) -at construction and operation there would be no noticeable difference between the landscape and visual effects of the Proposed Development and the cumulative landscape and visual effects of both the Proposed Development and the Navenby substation.

- Gorse Hill BESS (24/0075/EIASCR)- at construction and operation there would be no noticeable difference between the landscape and visual effects of the Proposed Development and the cumulative landscape and visual effects of both the Proposed Development and the Gorse Hill BESS.

- Navenby BESS to the north of Green Man Road, Navenby (23/0390/EIASCO and 23/0584/EIASCR)- the proposed development and the BESS to the north of Green Man Road would have direct effects on the character of the Limestone Heath. At construction and operation there would be no noticeable difference between the other landscape and visual

effects of the proposed development and the cumulative landscape and visual effects of the Proposed Development and the BESS to the north of Green Man Road, Navenby.

- Springwell Solar Farm- the proposed development and Springwell would have direct effects on the character of the Limestone Heath but once the landscape mitigation has matured, there would be a minor adverse effect. At construction and operation there would be no noticeable difference between the other landscape and visual effects of the Proposed Development and the cumulative landscape and visual effects of the Proposed Development and Springwell Solar

- Leoda Solar- the proposed development and Leoda would have direct effects on the character of the Limestone Heath and at construction, there would be a moderate adverse effect which is significant. At construction and operation there would be no noticeable difference between the other landscape and visual effects of the proposed development and the cumulative landscape and visual effects of the proposed development and Leoda Solar

9.13 The Applicant has commented on the cumulative effects of the proposed development and each of the other developments in turn, they have not considered all of these developments together which would have a greater impact in visual and landscape terms.

9.14 The Applicant has understated the visual and landscape impacts of the proposed development on the Limestone Heath. Even after the mitigation planting has matured, the impact of the 15m high transformers of the Navenby substation and other BESS infrastructure all clustered in this area will still be visible and permanently change the character of the area. I refer to the plan at Appendix 2 to the report by AAH Consultants which is annexed to the Delegated Officer report for the Scoping Opinion Request for Navenby Substation ref 25/0699/EIASCO which illustrates the extent of the proposed developments on the Limestone Heath area.

9.15 The Applicant has understated the extent of the visual and landscape impacts of the proposed development in that these extend over a much larger area than the Limestone Heath. The impact will affect the lives of thousands of residents and many communities from Thorpe on the Hill in the north to Scopwick in the east, Leadenham in the south and Norton Disney in the west. Travelling across the landscape these developments will be visible and change the nature of the arable landscape to an industrialised area. Fosse Green, Leoda and Springwell Solar are the largest proposed solar farms in Lincolnshire. Cumulatively the scale and extent of these developments will cause significant harm to the rural character of this part of Lincolnshire.

**10.0 Tranquillity and well-being**

10.1 Paragraph 123 of the NPPF says that ‘planning policies and decisions should aim to identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason”. The Campaign to Protect Rural England defines tranquillity is terms of their countryside mandate as “the quality of calm experienced in places with mainly natural features and activities, free

from disturbance of manmade ones." Paragraph 2.10 of The Landscape Institute Technical Information Note "Tranquillity-An Overview" says that tranquillity is an umbrella term to refer to the effect of a range of environmental factors on our senses and our perception of a place. Paragraphs 3.16 and 3.17 state that factors such as links to nature, characteristics such as fields, natural colours, open views, the sound of water, peace, quiet and calm contribute to the idea of tranquillity whereas the impacts of commercial and industrial development are negative factors that detract from the idea of tranquillity.

10.2 The proposed development will result in increased traffic movements, noise from machinery, light pollution, the introduction of buildings into open areas of countryside resulting in the industrialisation of large swathes of land. The Applicant has not considered the impact of the proposed development on the well-being and sense of place of the residents and visitors to this area.

## 11.0 Benefit to the community

Policy S14 of the Central Lincolnshire Local Plan states that where there are significant adverse impacts as set out in the policy, the effects will be weighed against the wider environmental, economic, social and community benefits provided by the proposal. Significant additional weight will be given in favour of a proposal which is community-led and for the benefit of that community. The electricity generated by the proposed development will feed into the National Grid and therefore will not benefit the local community. The proposed development is not community-led nor does it benefit the local community.

## 12.0 Funding Statement and Decommissioning costs

12.1 In response to Carlton le Moorland Parish Council's comments that the ES does not quantify the cost of decommissioning, the Applicant states in Table 12-2 (page 17) of Chapter 12 Socio-Economics and Land Use (AS-016) that "it is committed to setting aside money for decommissioning". There is no further detail in the project documentation about the costs of the decommissioning or how it will be funded. Paragraph 1.3.1 of the Funding Statement (AS-014) notes that the current cost estimate of the proposed development is approximately £340 million and this estimate has been arrived at by including "construction costs, preparation costs, supervision costs, land acquisition costs (including compensation payable in respect of any compulsory acquisition), equipment purchase, installation and commissioning". Although the description of the proposed development in paragraph 1.1.2 of the Funding Statement includes decommissioning, it is not clear whether the £340 million includes decommissioning costs.

12.2 The Funding Statement is published pursuant to Regulation 5(2)(h) of the Planning (Applications: Prescribed Forms and Procedure) Regulations 2009. Paragraph 17 of the "Guidance related to procedures for the compulsory acquisition of land" DCLG Sept 2013 says that the funding statement "should provide as much information as possible about the resource implications of both acquiring the land and implementing the project for which the land is required". The funding statement should therefore show that the project is viable. As the project includes decommissioning (as defined in paragraph 1.1.2 of the Funding

Statement), the Funding Statement should identify the costs and how they will be met. For example paragraph 2.2.1 of the Funding Statement for Tillbridge Solar states that decommissioning costs will be covered by an agreement with the landowner to create a form of security to ensure that there are funds available for decommissioning. In Oaklands DCO the Funding Statement (APP-020) stated that the pre-application costs had been funded from the applicant's balance sheet and that "this model will continue to apply through the DCO determination period, construction, operation and ultimately decommissioning of the Proposed Development".

12.3 The Draft Development Consent Order (APP-016) sets out the requirements of the order in Schedule 2 which includes at paragraph 20 the requirement to implement the Decommissioning Environmental Management Plan. S161 of the Planning Act 2008 makes it an offence without reasonable excuse to fail to comply with the terms of a DCO punishable on summary conviction to a fine of £50,000 and on indictment to an unlimited fine. A prosecution for a breach of the DCO would not therefore result in compliance with the terms of the DCO. Under S169 of the Planning Act 2008 North Kesteven District Council has the power to serve a notice requiring a breach of the DCO to be remedied and under S170 the Council has the power to carry out work in default and recover the expenses from the owner of the land. After the 60 years operational period for the project, it is highly unlikely that the Applicant would still have any legal or operational interest in the application site and it may well be that the only legal entity with such an interest in the land is insolvent. (Indeed the Applicant has already sold its interest in the land at Mallard Pass for which it obtained a DCO in September 2024). It would therefore fall to North Kesteven District Council to fund the remedial work which would likely run into millions of pounds and which there may be little prospect of being able to recover.

12.3 In the 2021 research paper by Dr Rebecca Windemer (Senior Lecturer in Environmental Planning -University of the West of England) "End of life decision making for onshore wind and solar farms in Great Britain" it is noted in paragraph 7.5 that "the use of planning conditions and legal agreements has developed over time, decommissioning bonds are typically used as well as the requirement for decommissioning method statements".

12.4 I suggest therefore that to ensure that the decommissioning and restoration works are not carried at public expense, the DCO includes a requirement that prior to commencement of development the Applicant should provide an on-demand index-linked performance bond to North Kesteven District Council to secure the performance of the obligations set out in the draft DCO. There is an example of a requirement for a decommissioning bond in the DCO for Helios Renewable Energy Project where paragraph 5(3) of Schedule 2 states:-
"No later than year 15 of operation the undertaker must notify the local planning authority that the undertaker has put in place the requisite decommissioning security in the form as required by the landowners".