Planning Act 2008

Application by Rosefield Energyfarm Limited for an order granting development consent for the Rosefield Solar Farm (EN010158)

NOTE OF SUBMISSIONS AT ISSUE SPECIFIC HEARING 1 (ISH1)

on behalf of the

Claydons Solar Action Group (CSAG)

COMMENT ON LEAVING OVER OF MATTERS TO DETAILED DESIGN STAGE

1. A broad concern raised at ISH1 by CSAG in respect of several agenda items relates to the amount of information the Applicant proposes to provide only at the detailed design stage, after a Development Consent Order would have been granted and outside the consultation scope of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, The Planning Act 2008 and The Infrastructure Planning (Examination Procedure) Rules 2010.
2. One example of why this approach may be problematic arose during ISH1, when Buckinghamshire Council's ecologist retracted her support for the proposed wintering bird mitigation in the light of oral evidence from CSAG's ecology expert. The Council had relied on information provided by the Applicant and had not understood that the topography of some of the mitigation areas rendered them unsuitable for certain wintering birds.
3. Given the lack of consultation at detailed design stage, such errors may not be picked up by local planning authority officers with limited time or capacity to review the information submitted by the Applicant.
4. The Applicant's response to the lack of information about the project itself was that the Design Commitments document (APP-039) sets out parameters for the scheme. However, these are often non-specific or include a range of options, each of which may have significantly different impacts.
5. This lack of specificity means that it is unclear whether adverse impacts will be sufficiently or genuinely addressed. For example, the Landscape and Ecological Management Plan at the current outline stage includes proposals for mitigation and (claimed) enhancement, which are described as "potential", "possible" and "indicative" throughout.
6. CSAG raised concern over the lack of information about the risk of soil and water contamination from PFAS and other forever chemicals resulting from cabling left underground following decommissioning.

7. The Applicant responded that the decommissioning plan will be agreed with the local planning authority in accordance with legislation and guidance in force at the time. However, there is no certainty that the concern will be raised at that time and there is a commercial incentive to leave the cables in the ground, given the cost of removal and reinstatement of the land.
8. A more precautionary approach would be to include a requirement in the DCO that the cables are removed at the decommissioning stage.
9. In response to concerns raised by CSAG about forever chemicals, the Applicant stated that many modern solar PV array coatings are now glass, but there is no commitment to use glass solar PV arrays.
10. Other examples of very broad Design Commitments include the following (our emphasis):
11. *D6 Solar PV mounting structure foundations will be helical* ***or*** *driven piled vertical posts* ***or*** *screw piles* ***or*** *ballasted* ***or*** *shallow concrete foundations…*
12. *D17 BESS containers and transformer units will be mounted on* ***either compacted hardcore, reinforced concrete foundation slab or concrete piles or screw piles.***
13. *D18 BESS containers and transformer units will be* ***grey, green or white in colour***
14. *D24 Perimeter fencing around the Rosefield Substation, Satellite Collector Compounds, BESS and Main Collector Compound will be* ***metallic or green*** *in colour.*
15. *E2 Internal access tracks will* ***typically*** *be surfaced with permeable material* ***such as*** *gravel and will include drainage* ***such as*** *a swale* ***or*** *ditch on the downhill side of the track*
16. There is also significant uncertainty as to whether grazing will occur on the site. This concern has been raised several times in submissions by CSAG's ecology and landscape experts.

AGENDA ITEM 1: NEED, SITE SELECTION AND ALTERNATIVES

BESS Grid Connection

17. CSAG observed at Deadline 2 (REP2-102) that the granting of the DCO is likely to place pressure on the National Grid to provide a connection offer for the BESS proposed as part of the scheme, which currently has only a Gate 1 offer. This is because a grant of planning permission is one of NESO's strategic requirements for connection.
18. The government and OFGEM, in the letter provided by CSAG at Deadline 2, have raised concern about the excess of BESS in the connections queue and the need to remove some which have Gate 2 offers, to avoid destabilisation of the grid. (REP2-102).
19. The Applicant confirmed during ISH1 that the granting of a DCO would support any application for a Gate 2 connection agreement for the BESS.
20. Ms Stirling on behalf of the Applicant said: "*Ultimately, you're in a bit of a chicken and egg scenario. Getting the planning consent demonstrates readiness and therefore increases the likelihood of participating and obtaining a Gate 2 offer.*"
21. Simon Gillett for the Applicant advised at 01:14:33:20 - 01:15:07:09 that the proposed BESS would have a storage capacity of around 1GWh. This would be some three times that of the proposed Solar PV, demonstrating, in CSAG's view, that the BESS is not subordinate to the solar PV.
22. CSAG noted that the greatest proportion of the income generated by the BESS is likely to arise from arbitrage. This entails downloading energy from the grid when energy demand and prices are low and returning it to the grid when demand and prices are higher.

<u>Site Selection</u>

23. CSAG raised concern that the Applicant had not demonstrated that it had taken into account the impacts on farmers/tenants with multi-generational tenancies, whose livelihoods, homes and businesses would be severely disrupted by the proposed development.
24. The Applicant has acknowledged that it sought a site with a single large landowner. However, the area to be developed occupies less than one third of the Claydon Estate's landholding and the Applicant has not demonstrated that there was no land

within that holding that would have avoided disrupting tenancies or that the other land was unsuitable for any other reason. This is especially pertinent given the risk posed by the development to TCS Biosciences and Preston Farms and to an area that was on the brink of notification as a SSSI in late 2024. The notification has been paused with as yet no date for when this will take place.

25. CSAG was grateful to the inspectors for extending the Accompanied Site Visit (ASV) to fields D28 and D29 within the Area of Attractive Landscape. This enabled an understanding of the topography of the fields, some of the views from public rights of way/permissive routes of the fields and the wider landscape, including Waddesdon Hill, site of a Waddesdon Manor and its registered park and garden, both Grade 1 listed. This indicates there would be views of the development from Waddesdon Hill.
26. CSAG observed at the ISH that the Applicant did not consider alternative sites that could have ensured avoidance of the AAL – which is also within the Core Sustenance Zone for the Bechstein bat colony (as is much of the site). CSAG has set out its concerns about the site selection process in its Written Representation (REP1-128).
27. The Appellant's landscape expert suggested that the Applicant had, in fact, scoped out other sites within the AAL, although there is no reference to this process in the Site Selection Report (APP-037) or Consideration of Alternatives (APP-047).

Flexibility in design details

28. CSAG's view on the Applicant's approach to site selection and consideration of alternatives is set out in its WR (REP1-128) and addressed further in the Deadline 3 comments on the Applicant's response to the WR.
29. CSAG observed that the information provided in the ES and wider assessments does not meet the level of information EN-3 indicates should be provided where an applicant is seeking flexibility in the design details.
30. CSAG acknowledges that the Design Commitments document (APP-039) includes broad maximum parameters for the solar arrays and other infrastructure. However,

31. the information sought by paragraphs 2.10.70 and 2.10.71 of EN-3 (2024) is as follows:

2.10.70 In many cases, not all aspects of the proposal may have been settled in precise detail at the point of application. Such aspects may include:

the type, number and dimensions of the panels;

layout and spacing;

the type of inverter or transformer; and

whether storage will be installed (with the option to install further panels as a substitute).

2.10.71 Applicants should set out a range of options based on different panel numbers, types and layout, with and without storage.

32. The Applicant has declined to provide any options based on panel numbers, types and layout (with or without storage), arguing that solar PV technology is evolving too rapidly to enable even indicative proposals.
33. However, Fig.18 of the Statement of Need (Evolution in solar cell efficiency 1975 – 2024) (APP-036) which was displayed at ISH1, shows that at the higher levels of efficiency there has been limited change throughout the 2020s, with most of the increases prior to 2015. The steepest growth curves are for new technologies, but these start from lower levels and do not reach the efficiency ratings of the single or multijunction cells.
34. This can most easily be seen by extracting the single cell data – see Fig. 1. The flag at the right-hand side of the chart shows the record for the technology in laboratory tests. These levels would not be achieved in the U.K. climate.
35. While multijunction cells show higher efficiency ratings, these are expensive to produce and are not used in utility scale solar schemes.
36. The most rapid improvements in efficiency arise from new cell technology, which does not necessarily require an increase in panel size. See Fig. 2.

37. Efficiency will always be constrained in the U.K. by the climate.

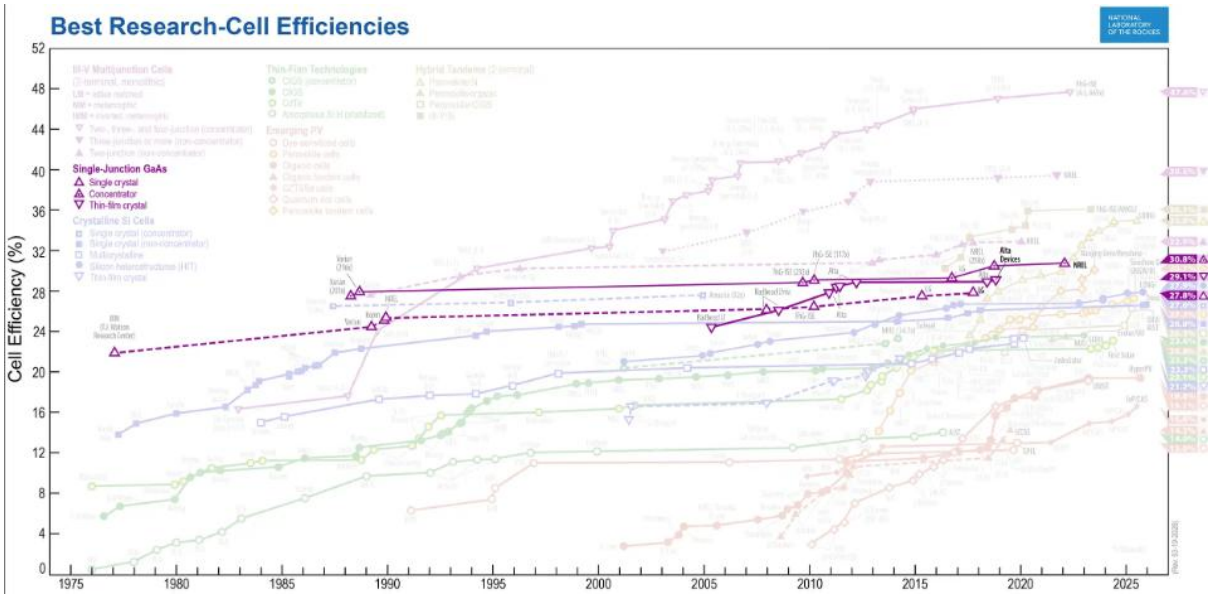

Fig. 1) Best single solar cell efficiency data. Source: National Laboratory of the Rockies.

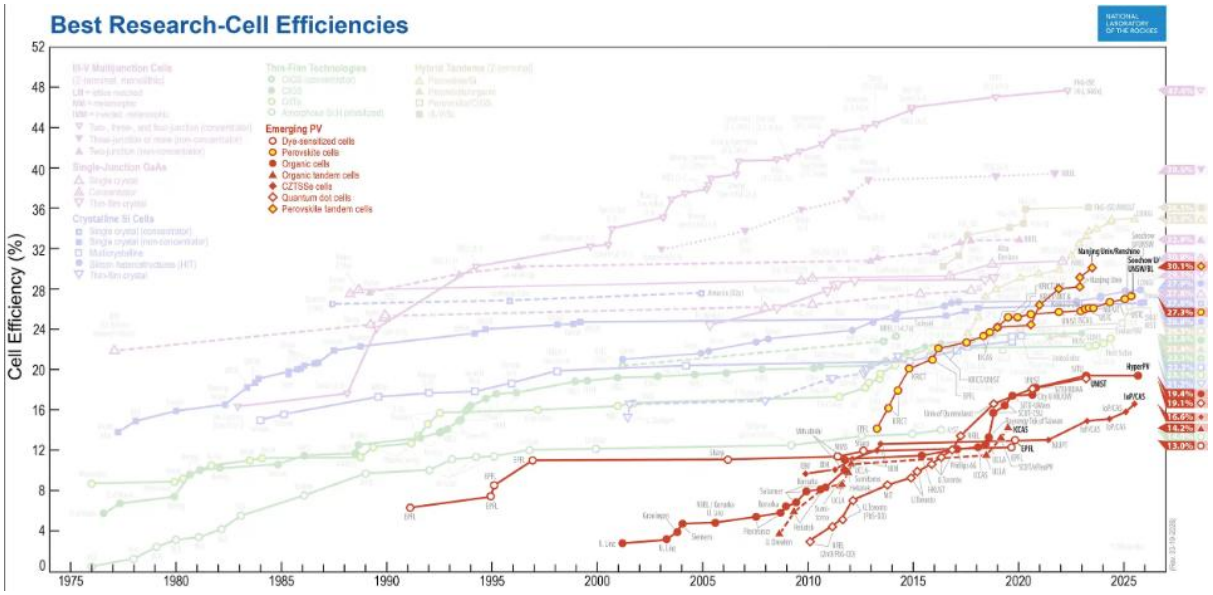

Fig. 2) Best single emerging PV efficiency data. Source: National Laboratory of the Rockies.

38. The Applicant says at 7.8.13. of the Statement of Need that *"It is difficult to predict what the future capacity of a PV module will be, but manufacturers are constantly improving the technology. For example, one panel which became available in Q4 2020*

was advertised at 21.3% efficiency, while a panel from a different manufacturer, which became available in Q1 2023, was advertised at 23% efficiency. (Author Research)"

39. The comparison would be more useful if it were to look at efficiency evolution in products from the same manufacturers and show how the improvement had altered the size, scale and/or appearance of the solar panel.
40. The Applicant acknowledged in the Statement of Need (APP-036) that, while the biggest improvements in capacity have been delivered through increasing the size of the solar panels, producers are now delivering efficiency increases in ways that do not require an increase in panel area and this can also be extrapolated from Fig. 2, which illustrates a range of emerging technologies.
41. The increase in panel size arising from increased capacity is, anyway, relatively small. For example, Trina's Vertex N740W solar panels measures 2384mm x 1303 mm, compared with its Vertex N645W, which measures 2382mm x 1134mm.
42. Panels of over 700W have been available for around three years and the Trina N740W is typical. Huasun's 768W model is identical in size to Trina's 740W model, measuring 2384 mm x 1303 mm.
43. The Statement of Need said at 7.8.12: *Any increase in panel output due to increasing the size of each panel* ***will not materially affect their coverage across a proposed parcel of land because the total area of panels which can be placed in the parcel will be broadly the same."*** (Our emphasis).
44. It is not, therefore, credible for the Applicant to say that it cannot provide options based on different panel numbers, types and layout.
45. The Applicant has already explained in response to the Examining Authority's first set of questions (REP2-087 at Q1.4.4) that any efficiency improvements are expected to enable overplanting, rather than resulting in a different layout or panel numbers. For ease of reference, the Applicant said:

    "This therefore brings the possibility that at the detailed design stage, optimisation of the site layout and the utilisation of panels with higher performance than those

assumed in the indicative design may lead to an increase in installed capacity versus the indicative design, while respecting the control parameters established in the DCO, which would lead to overplanting."

46. The Response to the ExA's question (REP2-087 at Q1.4.4 quoted above), advises that a particular type of panels formed the basis of the indicative design. The Applicant has not disclosed what panel was used to produce the design, although this would provide a partial response to paragraph 2.10.71 of EN-3, and assist in understanding the level of change that might arise from using different, perhaps larger, panels.
47. The information would inform assessment of likely landscape, visual, amenity and cultural impacts, as well as traffic numbers and noise and vibration during the construction period.

ITEM 5: ECOLOGY AND BIODIVERSITY

48. The Applicant was asked by the ExA to respond to the Scott Schedule drafted by CSAG's ecologist. The Applicant has not done this, instead incorporating its comments within the Response to WRs (REP2-086). CSAG's ecologist has extracted the comments and incorporated them into an updated Scott Schedule, which is appended to this Document.

ITEM 5 LANDSCAPE AND VISUAL

49. Landscape and visual matters discussed at ISH1 are addressed in the appended note.

ITEM 6 CULTURAL HERITAGE

50. CSAG reiterated that, as set out in the WR (REP1-128), the Action Group disagrees with the levels of harm to the settings of heritage assets identified by the Applicant, considering that in the case of almost every asset, the harm is greater than the level identified by the Applicant.
51. One issue raised by CSAG was the adverse effect on the designed view from Claydon House towards Knowl Hill, where a group of trees has been planted as an "eye

catcher", which was evident in views from the park and garden during the ASV. Although the Applicant has avoided installing solar pv on the ridgeline, the hill would be encircled by panels, which would introduce incongruous features into the designed view from and within the setting of the heritage asset.

52. CSAG also raised concern about the reliance on trees and vegetation as mitigation screening, recalling the ASV to Muxwell Farmhouse where an avenue of bird cherry trees had been entirely denuded of their foliage by ermine moths. Such losses of/damage to trees and plants are becoming commonplace, with increased penetration of pest and diseases, such as ash dieback (Chal and extreme weather due to climate change as explained in the Landscape and Visual Report submitted as part of CSAG's WR (REP1-128).

53. Mr Griffiths for the Appellant replied that "*it's not a reasonable approach in EIA for an applicant to assume that planting outside its red line boundary does not exist."*

54. CSAG's observation related both to the proposed mitigation planting and to existing vegetation on which the Applicant is relying to screen the proposed development for the duration of the operation, and which the Applicant's LVIA assumes would not change at all during that time.

55. Mr Griffith's comment does not conform with the EIA Regulations, which are concerned with likely significant effects (LSE). If it is likely – which CSAG says it is – that existing and proposed trees and plants will not endure in their entirety for the lifetime of the development, the LSE of the project should be assessed in that context.

56. Finally on this point, the Applicant had argued that any further set back of the solar arrays would unacceptably reduce the generation capacity of the scheme.

57. CSAG noted that in the Site Selection Report (APP-037, Appendix 1), the Applicant sought a site to deliver between 250MW and 500MW, meaning that the 335 MW scheme now proposed is significantly larger than the lower threshold set by the Applicant. A scheme of 250MW was apparently deemed viable by the Applicant, meaning that there appears to be scope to remove panels from areas where they are

giving rise to the greatest adverse effects without making the scheme commercially unviable/unattractive.

ITEM 7: TRANSPORT AND ACCESS

58. As explained above, CSAG's view is that leaving matters over to detailed design may preclude proper assessment of the reasonable worst-case scenario of the proposed development.
59. One example given was the impact of construction traffic in combination with other large-scale projects in the area including HS2 and Grendon Prison, both of which are likely to coincide with the construction of the proposed development if consent is given. Other projects include Statera BESS, other solar projects and East West Rail, which are shown on CSAG's Deadline 3 map. (Highway matters are addressed further in CSAG's response to the Applicant's comments on the WR).
60. The communities that make up the Action Group have already endured years of traffic disruption, including road closures and high levels of HGV traffic, and are not confident that the Applicant has demonstrated the reasonable worst-case scenario likely to arise from construction traffic. This includes because the Applicant has failed to take into account the competition for construction workers in the area due the large number of simultaneous construction projects. This is likely to mean that plans to bus workers in from within a specified area will not be feasible.
61. The Applicant advised that it is seeking to coordinate construction traffic with HS2, but no mention was made of any of the other projects planned or underway.

ITEM 8: POPULATION

62. In response to the Applicant's claims that the fire/thermal runaway risk from the BESS was very low (on which CSAG's expert disagrees – REP1-128), CSAG raised concerns about the contaminants arising from such an event causing pollution to agricultural land and soils. This risk has not been addressed by the Applicant, although it could cause severe disruption to local farms, including Preston Farms.

COMMENT FROM CSAG BESS SAFETY EXPERT, PROFESSOR PETER DOBSON OBE, FInst P, CPhys, FRCS:

63. The evidence given to ISH1 was most unsatisfactory especially because it lacked any appreciation of the potential damage to highly sensitive and important livestock. There are several aspects to this: these large BESS sites are intrusive as regards the noise and hum, which can be very stressful to animals and it is continuous.
64. The other worrying aspect is that of contamination in the event of a fire in one of the BESS units. The oral evidence was unsatisfactory, with concentrations for gases quoted in parts per million which are quite meaningless unless quantified by distances and prevailing conditions.
65. If the real-life fire tests have been conducted, the data should have been presented for others who may be more expert in plume analysis to make a judgment. Such results should be made available without delay.
66. In addition to the long list of gases that the applicant's consultant quoted, all of which pose risks to human and animal health, there is the question of aerosol and particulates which were not mentioned. These are well evidenced in the smoke that is emitted by a lithium-ion battery fire. Many reports tend to only mention the larger particulates but it is the smaller ones that pose the biggest risk because they can enter the blood and even the brain by inhalation via the nose. (See Claassen, M., et al., *Characterization of Lithium-Ion Battery Fire Emissions—Part 2: Particle Size Distributions and Emission Factors.* Batteries, 2024. **10**(10): p. 366.)
67. Evidence for the fall-out of particulates from BESS fires has been documented and these have been found several km from the source (see Aiello, I.W., et al., *Coastal wetland deposition of cathode metals from the world's largest lithium-ion battery fire.* Nature Scientific Reports, 2025. **15**(1): p. 42113). This contradicts the assertion made by Paul Gregory, the consultant for the Developer who stated that the fields close to the BESS would not be affected by any fall-out.

Peter Dobson is Emeritus Professor of Engineering Science at the University of Oxford. He has a background in nanotechnology, especially in safety issues and he has taught courses on Environmental Technology and Energy, founded the Energy Society in Oxford University, and is published on battery safety.

ITEM 10: NOISE AND VIBRATION

68. CSAG asked why the Applicant had failed to provide any assessment of vibration impacts from piling. Mr Underhill for the Applicant replied that the impacts would be insignificant due to the use of small-scale piling rigs and the fact that each pile would take only a minute to install. However, the Applicant was unable to say how many piles in total there would be. Nor was there any explanation as to whether the rigs would be of smaller scale and impact than those used on other solar developments. The Design Commitments document (APP-039) suggests a number of options for piling equipment and excludes information about the number of panels and, consequently, piles proposed.
69. CSAG expressed concern that mitigation for noise and vibration impacts would be another matter left to the detailed design stage, including setting back of noise-generating equipment from public rights of way. Having based assessments on data from unspecified equipment, the Examining Authority cannot be certain that the actual noise impact would not be more severe than assessed as CSAG's noise and vibration experts set out in the Written Representation (WR) at Deadline 1. (REP1-128)
70. The Applicant's noise/vibration expert explained that acoustic barriers are likely to be Heras fencing with some sort of material draped over, although he appears to have been referring to the construction stage only.
71. The Applicant's noise and vibration assessment (REP1-040) advises only that acoustic barriers around the BESS and substation during the operational period would be "*constructed using a suitably dense material*" and that sound mitigation will be

provided for central inverters only where "*they are impacting upon noise-sensitive receptors,"* which does not appear to include users of public rights of way.

72. As CSAG noted on day 2 of ISH1, the design of acoustic barriers, particularly in relation to Preston Farms' livestock, is evolving and there does not appear to be any proposal to consider this additional infrastructure in the LVIA or any new visualisations.

CSAG May 2026