

Agricultural Land Note**Prepared for: AGR Solar 2 Limited****14th April 2023****2920-01-TN01**

Introduction

1. South Holland planning officers have requested up to date information in respect the percentage of the different grades of agricultural land being cumulatively taken out of production, given the other schemes within and just beyond the District boundaries.
2. In addition, information in respect of food security and consequences for farm businesses was also requested.
3. This Technical Note (TN) provides this information.

Impacts on Agricultural Land

4. The areas of best and most versatile (BMV) agricultural land for each development relevant to the proposed development has been extracted from the relevant planning application, DCO Preliminary Environmental Information Reports (PEIR) or DCO screening request. The information is presented in Table 1 below.

Table 1: Agricultural Land Classification Grades		BMV			Ha	Ha	Ha	Ha
		Hectares (Ha)						
Solar Farm Development	Status	Grade 1	Grade 2	Grade 3a	Grade 3b	Grade 4	Grade 5	Area BMV
Vicarage Drove	Approved		26	54				80
Bicker Fen	Planning	6*	6*	85*				97
Middle Marsh	Planning		152					152
Little Hale Fen	Screened/Planning Pending	3	3	71				77

Heckington Fen	DCO	58	39	160	265	0	0	257
Springwell Energy	DCO Screening		497	673***	346			1170
Totals		67	723	1073	611	0	0	1833

*Figures adjusted from ALC report to reflect final site area

** Project at an Early DCO Screening Stage.

***Figure assumes 2/3 of undifferentiated Grade 3 is Grade 3a.

5. The Heckington Fen Energy Park, Vicarage Drove Solar Farm, Middle Marsh, Little Hale Solar Farm, Springwell Energy Farm and Bicker Fen Solar Farm would result in cumulative, but reversible impact on c. 1,833 hectares of best and most versatile (BMV) agricultural land. However, within Lincolnshire there is c.488,915 hectares of farmed land, based on Government statistics, with approximately 381,000 hectares of BMV agricultural land. As such the cumulative impact of all six solar project would be just c.0.5% of the total available BMV agricultural land resource within the County. It should be noted that both Heckington Fen Solar and Springwell Energy Farm, which impacts the greatest area, are at a very early stages of the Development Consent Order (DCO) process. Projects at these early stages would not ordinarily be included in a cumulative assessment due to the high level of uncertainty in respect of the final details or if an application will actually be submitted.
6. The land within each submitted application boundary would not be fully removed from agricultural use as the areas beneath the solar panels would be used for sheep grazing. This has not yet been confirmed for Springwell Energy Farm which is at a very early stage in its development. As such, the land would continue in agricultural production. Crop production would not be possible during the operational life of the solar farms and this is discussed in more detail in respect of food security and farm consequences. Natural England have confirmed that the proposed development would not result in the permanent loss of BMV land and that the land can be restored to full agricultural use following decommissioning. In addition, it is widely acknowledged that removing land from intensively managed production for a period of time can have beneficial effects in terms of agricultural land quality as the soil structure and organic matter content can improve over time reducing the need for fertilisers, when returned to full agricultural use. Furthermore, it is widely recognised that effectively fallow farm land results in sequestration of carbon from the atmosphere.



7. The landowners for the Bicker Fen Solar Farm have confirmed that the land is not their best quality land and is generally not suitable for growing root vegetables. As such, crops tend to include barley, wheat and linseed. Removing this land from intensive agricultural use has the potential to improve soils in the longer term and increase the range of crops that can be cultivated in the future.

Food Security

8. It has been suggested that the development of solar farms on best and most versatile agricultural land could have a significant impact on food security in the UK. Solar Energy UK have produced a briefing note that is appended to this technical note that sets out why this is not the case. The briefing note is summarised below:

- *Solar helps address climate change, which is the single biggest threat to UK food security. This is according to the Department for Environment, Food and Rural Affairs, which says that climate change could reduce the UK's stock of high-grade agricultural land by nearly three-quarters by 2050. Because solar farms generate near zero carbon electricity, they help address climate change. This means they are helping to improve the UK's food security.*
- *Solar cuts costs, which helps keep UK farmers in business. Solar provides some of the cheapest electricity in history. Without solar, energy prices would be even higher. This is important, because costs are increasing for agricultural businesses, just like everyone else. Solar can also provide a direct and long-term revenue stream for farmers who choose to host a project on their land. By helping to keep UK farming profitable, solar is also helping to secure the UK's domestic food supply.*
- *Solar preserves agricultural land. Planning permission for a solar farm is time limited, and installations can be completely dismantled at the end of their operation. Solar does not take agricultural land, it borrows it, and because agricultural land under a solar farm is in effect left fallow, soil health can recover. Solar farms themselves occupy a minuscule area, and even with five times as many solar farms deployed around the UK, they would still occupy less land than the amount currently occupied by golf courses.*



9. As set out earlier the land beneath the solar panels at Bicker Fen Solar Farm would continue in agricultural use through grazing and it is the loss of the arable functionality that needs to be considered as a result of the proposed development and other cumulative sites.
10. The landowners have confirmed that the wheat and barley yields in the area range from 7.5-10 tonnes per hectare depending on weather conditions etc. As such the land temporarily lost to the Bicker Fen Solar Farm for arable production could result in a UK reduction of wheat or barley production of approximately 728-970 tonnes per annum. Development of all cumulative sites referenced in Table 1 above could result in a UK reduction of wheat or barley production of approximately 13,738 -18,330 tonnes per annum.
11. Information from DEFRA indicates that 15.5 million tonnes of wheat and 7.4 million tonnes of barley were produced in the UK in 2022¹. The Bicker Fen Solar Farm would represent a reduction of less than 0.006% of UK wheat production and less than 0.013% of UK barley production. When considered cumulatively with other sites in Table 1 the total reduction would represent less than 0.12% of UK wheat production and 0.25% of UK barley production.
12. The 'United Kingdom Food Security Report 2021: Theme 2: UK Food Supply Sources' study states that:

'The biggest medium to long term risk to the UK's domestic production comes from climate change and other environmental pressures like soil degradation, water quality and biodiversity. Wheat yields dropped by 40% in 2020 due to heavy rainfall and droughts at bad times in the growing season. Although they have bounced back in 2021, this is an indicator of the effect that increasingly unreliable weather patterns may have on future production'.
13. It can be seen from the above that climate change effects have a greater potential to affect food security than the temporary loss of land to solar farm development.

¹ <https://www.gov.uk/government/statistics/cereal-and-oilseed-rape-production>



Farming Consequences

14. There are three landowners involved in the project and all are farmers who actively manage the land for crop production as a family business. None of the landowners employ external staff and all have expressed an interest in managing sheep grazing on the site.
15. In June 2021 the Farmers Weekly stated the following:²

‘Andersons estimates that the number of full-time UK farm businesses will drop from about 54,000 in 2020 to just 42,300 by 2030 – a fall of 11,700 or about 20%’.
16. All the landowners have confirmed that the rental for hosting the solar farm will help them diversify their income streams and maintain a viable farm business during increasing difficult economic conditions for farms due to increased energy costs, price inflation not being reflected in the market price paid for their produce and less subsidy support. This will enable these family businesses to keep farming in the area and future generations to take over the businesses in the future.
17. The land required for the project represents just 15%, 15% and 4% of the respective land holdings for each farmer. This is insignificant in the context of the farm business and the rental for hosting the solar farm will exceed the income that could be derived from growing wheat or barley on the site, given the prevailing economic conditions. and uncertainties in respect of climate change impacts on yields.
18. Based on AGR’s experience of working closely with farmers on other Sites it is anticipated that stocking levels would be in the order of c.150 ewes and c.225 lambs per years.
19. Typical staffing levels for arable cropping on the existing arable land would be c.0.25 full-time equivalent (FTE) jobs. In contrast the sheep grazing proposed under the solar panels would support c. 1.5 FTE jobs for the duration of the solar farm operations.

² <https://www.fwi.co.uk/news/farm-policy/farmer-numbers-expected-to-plummet-as-bps-is-taken-away>



20. In addition, maintenance and monitoring requirements during the lifetime of the Proposed Development are likely to generate a further 3.0 FTE jobs.

