ONE PLANET

Summary of Benefits of Solar Farm and associated BESS on Land Adjacent To A614 Worksop Nottinghamshire (24/00384/FUL)

1. Renewable Energy Generation – Delivering a Sustainable District

a. The National Planning Policy Framework (NPPF) updated in December 2024 [1] establishes a strong presumption in favour of sustainable development as demonstrated by the extracts below:

> 161. The planning system should support the transition to net zero by 2050 and take full account of all climate impacts including overheating, water scarcity, storm and flood risks and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.

and:

> 168. When determining planning applications for all forms of renewable and low carbon energy developments and their associated infrastructure, local planning authorities should:
>
> a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and give significant weight to the benefits associated with renewable and low carbon energy generation and the proposal's contribution to a net zero future;

b. Production of renewable electricity is an essential foundation for economic growth and will also enable the move towards the electrification of heating and transport. (Clean Power 2030.[2])

c. This project will help support Bassetlaw Council's aspiration to be "*the most sustainable district in which to live and work, building on its legacy of energy production, manufacturing and logistics to power the net zero economy"* (Vision 2040 Bassetlaw).[3]

d. The project will contribute to the delivery of a more secure domestic electricity system with the potential for less price volatility.

e. Delivering more green energy in the UK will reduce our reliance on imported energy helping to improve energy security.

[1] National Planning Policy Framework, Ministry of Housing, Communities and Local Government, 2024 (amended 2025)
[2] Clean Power 2030: Action Plan: A new era of clean electricity, UK Government, 2024
[3] Bassetlaw Vision 2040 - Bassetlaw Vision 2040 & Council Plan Actions, Bassetlaw District Council, 2023

2. **Ecology and Biodiversity Net Gain**
    a. The project will increase habitat units by **170%**.
    b. The solar farm will increase hedgerow units by **248%**.
    c. The current intensively farmed arable monoculture will be transformed to host a diverse and species-rich mosaic habitat with a wide range of biodiversity benefits.[4]
    d. Solar farms have demonstrated higher incidences of botanical, invertebrate, bird and bat populations[5] and provide opportunities to enhance pollinator biodiversity.[6]
    e. The proposed development will support farmland bird assemblage by providing habitat for nesting and foraging. It will provide mixed habitat grassland that will support farmland birds of principle importance including yellowhammer, yellow wagtail, skylark and dunnock which have declined due to modern, intensive agricultural practices. Solar farm management influences breeding bird responses in an arable-dominated landscape (RSPB & Cambridge University Nov 2024).[7]
    f. Expansion of habitat suitable for notable species within the nearby nature sites.

3. **Direct Local Employment**
    a. During peak construction there will be at least 50 construction workers and specialist electrical contractors on site and staying locally if they are not already resident.
    b. Site operations and management will require local contractors during the 40 year life of the project.

4. **Wider Employment Gains for the District**
    a. The project enables green growth, in support of HM Government's industrial strategy.[8]
    b. It also supports Bassetlaw District Council's aspiration set out in *Vision 2040 Bassetlaw* and the transition to a low carbon economy.

5. **Increased Business Rates**
    a. The project will pay rates and will contribute at least £100,000 per year to Bassetlaw District Council (a total of £4 million over the lifetime of the project). The project will also have an ultra-low demand on council services.

6. **Farm Diversification – Supporting the long term viability of an important rural employer**
    a. The project will pay the landowner an inflation linked rental income over its 40 year life, helping to ensure the long term viability of the farm.
    b. The income will help fund and support the continued employment of locals working within the landlord's wider business.
    c. The project enables diversification of farming income at a time when there is great uncertainty surrounding government support for agricultural businesses.

7. **Local Energy Security**
    a. Local energy production reinforces the local green electricity supply allowing for increased local energy security and network resilience.

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[4] H. Agnew, *Solar Habitat 2024: Ecological Trends on Solar Farms in the UK*, Solar Energy UK website article and report, 2024.
[5] H. Montag, G Parker & T. Clarkson. *The Effects of Solar Farms on Local Biodiversity; A Comparative Study*. Clarkson and Woods and Wychwood Biodiversity, 2016.
[6] H. Blaydes, S.G. Potts, J.D. Whyatt & A Armstrong, 2020: *Opportunities to enhance pollinator biodiversity in solar parks*, Renewable and Sustainable Energy Reviews volume 145, July 2021.
[7] Solar farms managed for nature can boost bird numbers and biodiversity, RSPB website article, 2025.
[8] Invest 2035: The UK's modern industrial strategy, Department for Business & Trade consultation paper, 2024.

b. Increased local energy supply permits greater local electricity consumption, facilitating new employment opportunities. housing, and electrification of heating and transport.
c. The inclusion of batteries "behind the meter" in the development will allow the electricity generated by the solar farm to be exported and used at times when it is needed most, for example after dark. As noted in the Bassetlaw Local Plan 2020-2038, batteries "can positively work towards the decarbonisation of the electricity sector and therefore reduce environmental impact."[9]

8. Heritage Improvements and funding for the long term

a. Reinstatement of historic line of lost avenue and field pattern.
b. The development is temporary, but heritage assets are permanent. Once the development is removed the tree and hedge planting will remain for the long term.
c. Scrub and tree planting will provide long term screening of the intensively farmed landscape once the solar farm is decommissioned, for example screening the white plastic sheets visible currently.
d. The proposed development will provide an income stream for the Thoresby Estate providing vital funds for the upkeep of the historically important Thoresby Park and gardens.

9. Soil Quality Improvements and protection

a. Cessation of agricultural chemical inputs (synthetic fertiliser and pesticides) that damage and degrade soil and contaminate ground water.
b. The implementation of the planting plan and ongoing management will deliver increased soil organic matter (carbon) and improved soil structure[10]. The Department for the Environment, Food and Rural Affairs (DEFRA) commissioned research concluding that climate change, not solar-farm development is the "biggest medium- to long-term risk to the nation's domestic food supply… climate impacts under a medium-emissions scenario could cut the proportion of best and most versatile arable farmland from a baseline of 38% to 11% by 2050."[11]
c. The sequestering of carbon locks up atmospheric CO_2 and creates a virtuous cycle storing energy for plants. This potentially creates a healthier soil for future minimum/no tillage arable farming. The top 100cm of grassland soils can potentially store around 49 tonnes of carbon dioxide equivalents per acre. An arable acre by contrast may hold only 8 tonnes.[12] The rate of soil organic content is dependent on a whole host of factors but one can sensibly assume a 1-5% increase every 5 years[13] or up to 3 tonnes a year per acre.

10. Protecting the River Poulter

a. The solar farm will remove a pollution source from the river by eliminating agricultural chemical runoff.
b. Leaving the topsoil undisturbed will help preserve it onsite, preventing run-off into the river.
c. The land required for the solar farm will no longer require the abstraction of irrigation water from the River Poulter. As well as the significant environmental benefits resulting, this supports

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[9] *Bassetlaw Local Plan 2020-2038* , Bassetlaw District Council, 2024, p. 19.
[10] Lehmann, J., & Kleber, M. *The contentious nature of soil organic matter*, Nature vol 528(2015).
[11] Keay and others, *The impact of climate change on the suitability of soils for agriculture as defined by the Agricultural Land Classification*, *SP110* Cranfield University, 2014.
[12] https://www.jswconline.org/content/75/1/5A?utm_source=Master+List&utm_campaign=ed96522316-SCORCHER_2018_6_04_COPY_02&utm_medium=email&utm_term=0_52bd2e6821-ed96522316-224128077&ct=t%28EMAIL_SCORCHER_CAMPAIGN_6_04_2018_COPY_02%29&goal=0_52bd2e6821-ed96522316-224128077
[13] A Doblas-Rodrigo, P Gallejones, A Artexte, E. Rosa, O. del Hierro & P. *Merino Grassland contribution to soil organic carbon stock under climate change scenarios in Basque Country*, Reg Environ Change vol 22 (2022). This study of the Basque Country in Spain but demonstrates the application of the RothC model in a far harsher climate than the UK's.

Bassetlaw District Council's objectives on water efficiency measures District-wide set out in the current local plan.[14]

11. Reducing Flood Risk

a. A permanent vegetative cover and increased soil organic content will improve the lands resilience to flooding. Every 1% increase in soil organic carbon equates to a water-holding capacity increase for silty clay loam of 354,000 litres per hectare.[15]

b. A permanent vegetative cover slows down the surface water runoff, improves infiltration and increases the lag time of water flowing through the water catchment.

12. Health Improvements

a. Reduced emissions and pollutants arising from burning of fossil fuels improves air pollution and health[16], in line with Bassetlaw District Council's commitment to improving air quality.[17]

[14] *Bassetlaw Local Plan 2020-2038* , Bassetlaw District Council, 2024, p. 173

[15] Professor Andy Neal – Rothamsted Research quoted in NFU website article, *Improving soil organic matter and water holding capacity*, (2022)

[16]United Nations – https://www.un.org/en/climatechange/raising-ambition/renewable-energy

[17] *Bassetlaw Local Plan 2020-2038* , Bassetlaw District Council, 2024, p. 170