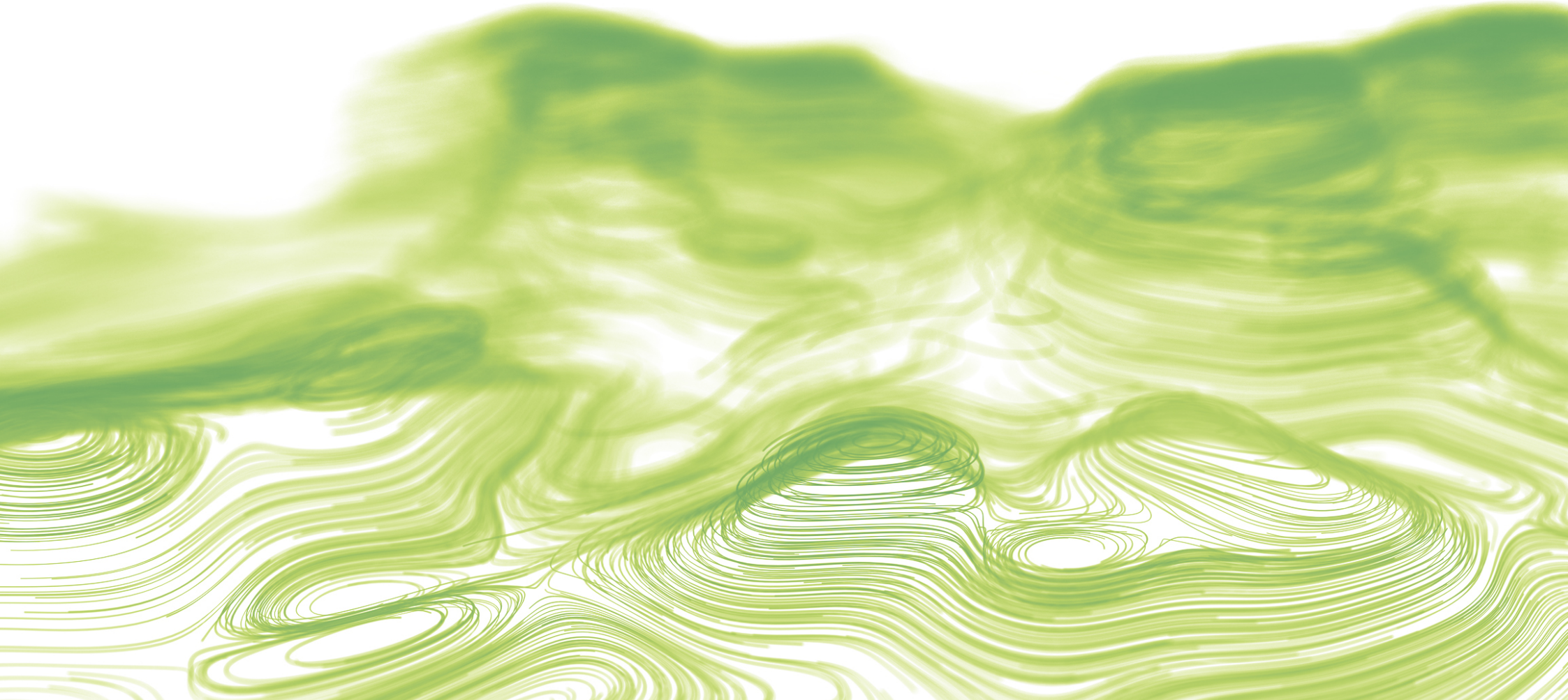
CLEARSTONE ENERGY

PROPOSED HYBRID SOLAR & BATTERY STORAGE SCHEME

Land West of Great Notley (Parish of Felsted)

Clearstone Energy Members' Briefing 14.05.2021



Agenda

About Us

Clearstone Energy is a leading independent developer of energy projects having secured planning consent on more than 240 MW of generating capacity, some 70 MW of which is operational.

The UK is currently facing a crisis in which we need to deliver sustainable forms of electricity generation, not only to supply growing electricity demand but also to reduce greenhouse gas emissions and help tackle climate change.

We are working with National Grid to develop a portfolio of strategically located Solar Photovoltaic and Battery Storage power plants that ensure that low carbon electricity is delivered when and where it is most needed.

2016

FOUNDED

850 MW

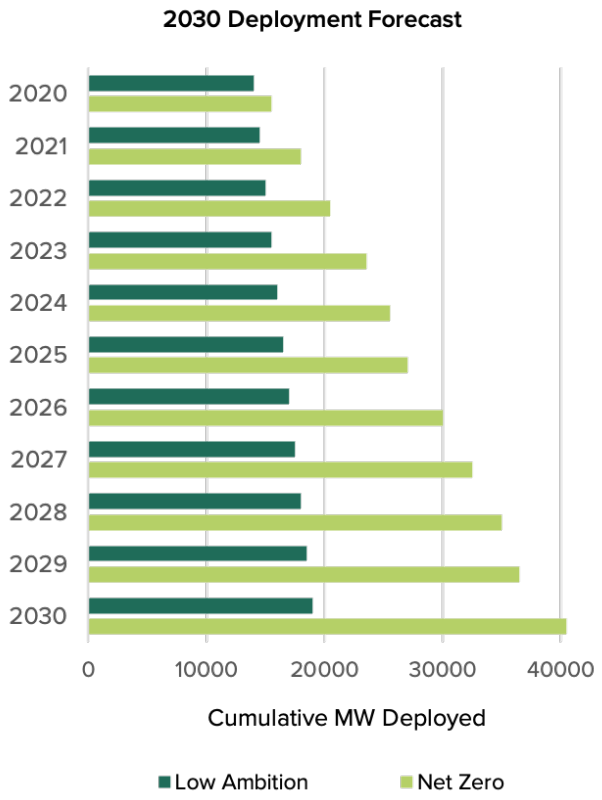
PIPELINE

240 MW

DELIVERED

CLEARSTONE ENERGY

nationalgrid UK



Net Zero

In 2019 the UK became the first major economy in the world to pass laws to bring all greenhouse gas emissions to net zero by 2050.

Put simply Net Zero means that we will put no more greenhouse gases into the atmosphere than we take out. Renewable Energy has the single largest role in achieving this target as low carbon technologies such as solar and wind have matured and can replace existing coal and gas power plants.

Renewable sources of electricity are also the best candidate to replace the fossil fuels we burn for heating, transport and other energy uses. However, this means we will not only need to replace existing energy sources with renewables but also significantly increase the total amount of electricity we generate to power everything from electric vehicles to our homes.

While solar PV will play a critical role it requires sites in the south of the country, where the demand for energy is greatest, with high levels of irradiance, ideally close to points of connection to National Grid.

Interim Climate Change Planning Policy 11.02.21

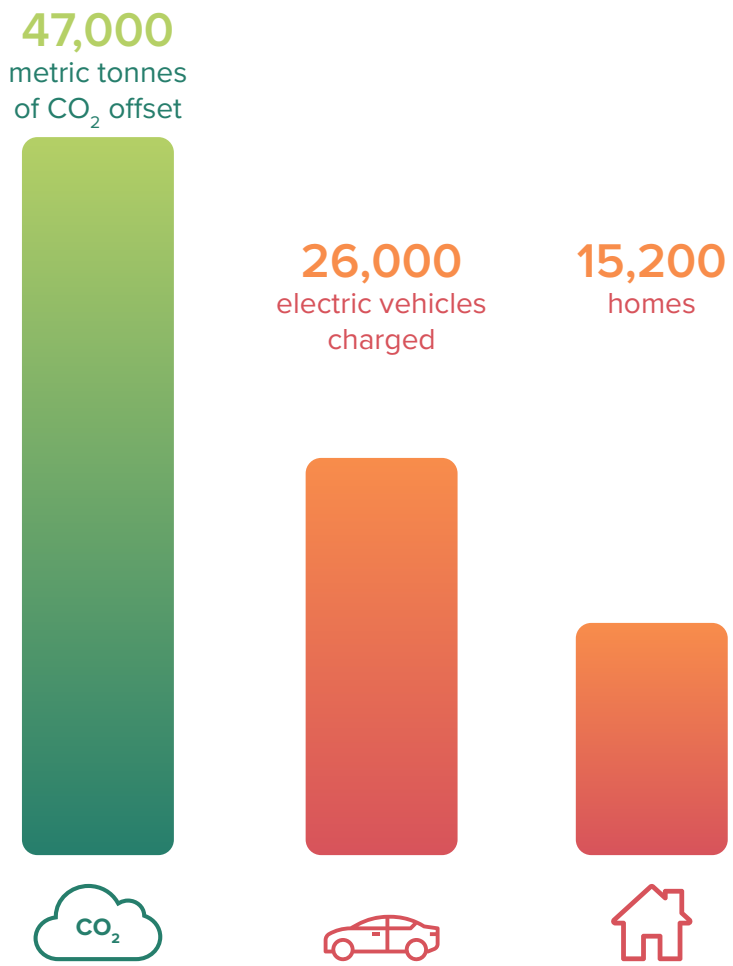
"The science is evident. Climate Change is happening now. If we fail to act, every living organism on Planet Earth will suffer. Our objective is clear. We must repair mankind's damage and protect our children's future"

Councillor Louise Pepper
Cabinet Member for Environment and Green Issues, Equalities, Uttlesford District Council.

Our Proposal

The proposed 113-hectare, 40 year installation would have an export capacity of 49.9MW of renewable energy to the National Grid.

This is sufficient capacity to cover the equivalent electricity consumption of 15,200 average homes or 26,000 electric cars annually and offset approximately 47,000 tonnes of Carbon Dioxide Emissions each year.



BENEFITS OF SOLAR DEPLOYMENT IN UK

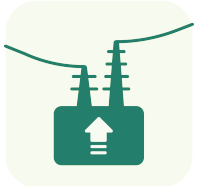
- The project will support the transition to a low carbon future, generating significant amounts of low carbon renewable energy.
- The LPA has recently published its strategy to mitigate the effects of the climate emergency. Whilst these address consumption of energy, new generation capacity will be a major factor in enabling Uttlesford District to play its part in reducing greenhouse gas emissions in line with local, national, and international targets.
- Contribute to the security of energy supply in Uttlesford and Essex through the provision of local, competitive renewable energy supply.
- Great Notley Solar Farm will not require a government subsidy.
- The cost of generating solar energy is effectively free once the scheme has been built. Alongside wind energy solar should bring down the cost of electricity in years to come.

Solar and Battery Storage Technology

Sunlight hits the solar panels, creating an electric current.

Batteries will allow energy generated during the day to be stored and used at times when it is needed most and in evenings when there is less sunlight.

Electric current is passed through an inverter to change direct current into alternating current.



Substation increases the electricity voltage for transmission over long distances

Electricity transferred to the national grid for distribution.

Electricity is delivered to homes, schools, hospitals, business, etc.

The Minister of State for Business, Energy and Industrial Strategy reflected changes in planning requirements in November 2020, saying:

"Electricity storage is a key technology in the transition to a smarter and more flexible energy system and will play an important role in helping to reduce emissions to net-zero by 2050. These changes will make it simpler for large scale storage facilities to seek planning permission, helping to bring forward larger projects supporting more efficient grid balancing and management of intermittent renewable generation."

This hybrid solar and storage scheme is at the forefront of renewable technology deployment in the UK and ensures the most efficient use of the land while allowing us to provide further support to and resilience to National Grid.

The level of deployment seen by the solar industry has led to a sharp decrease in costs, making it one of the cheapest methods of energy generation and one that no longer requires government subsidies in the UK.

Site Location

Why is this a good site for a solar project?

Address
Blackley's Farm, Great Notley, Braintree, CM77 7QW

Irradiance
Located in a high irradiance area for the UK.

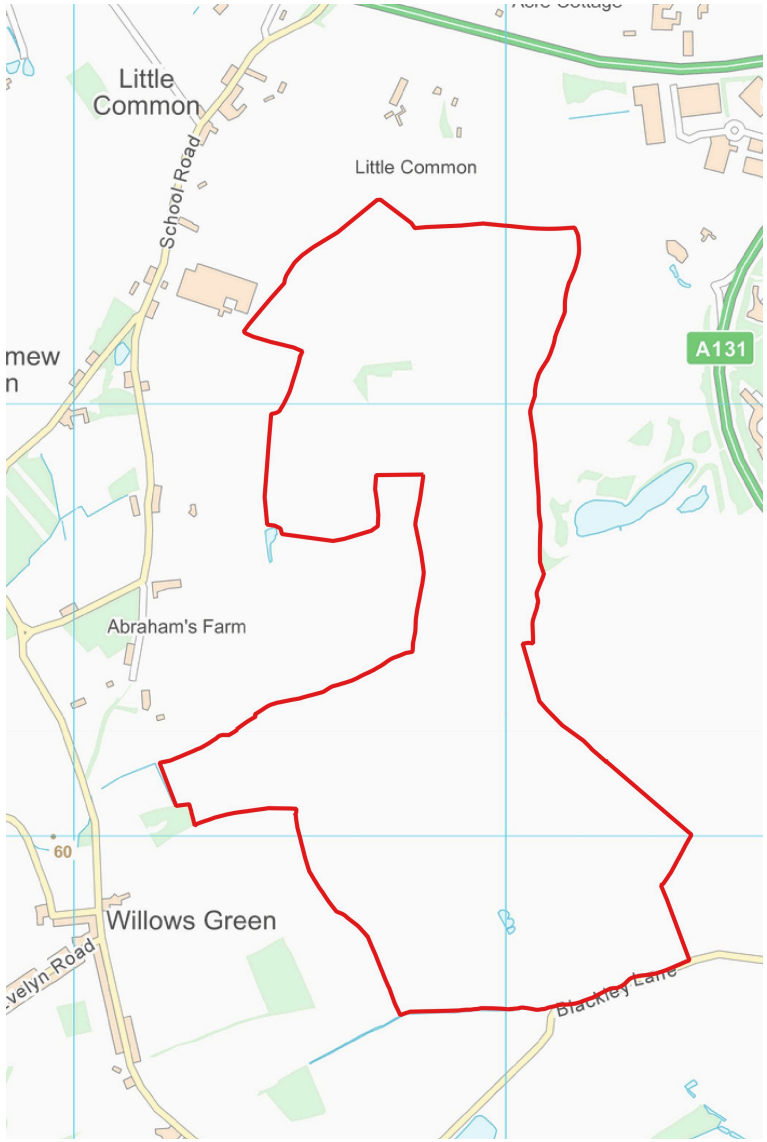
Grid Connection
The site is 4.3 km to the west of National Grid's Braintree substation.

Planning Considerations
The area is clear of local and national planning designations.

Heritage and Archeology
Desk based assessment has indicated no significant heritage or archaeological issues are present.

Access & Highways
Where possible existing access facilities can be utilised. Blackley Lane borders the southern boundary of the site and provides a relatively short route to the A131.

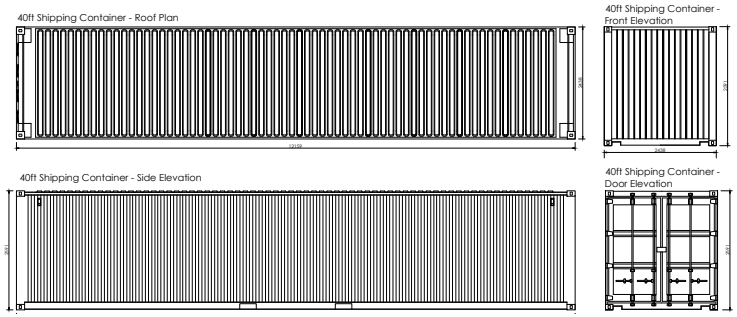
Land Quality & Use
The land has been assessed and is all Grade 3 - 91% is subgrade 3B. It's short-term impact on farming is therefore limited but the land will maintain its agricultural designation and will be returned to arable or grazing uses at the end of the development. The land will benefit from being 'rested'.

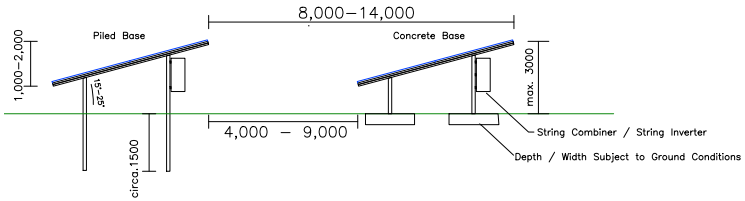


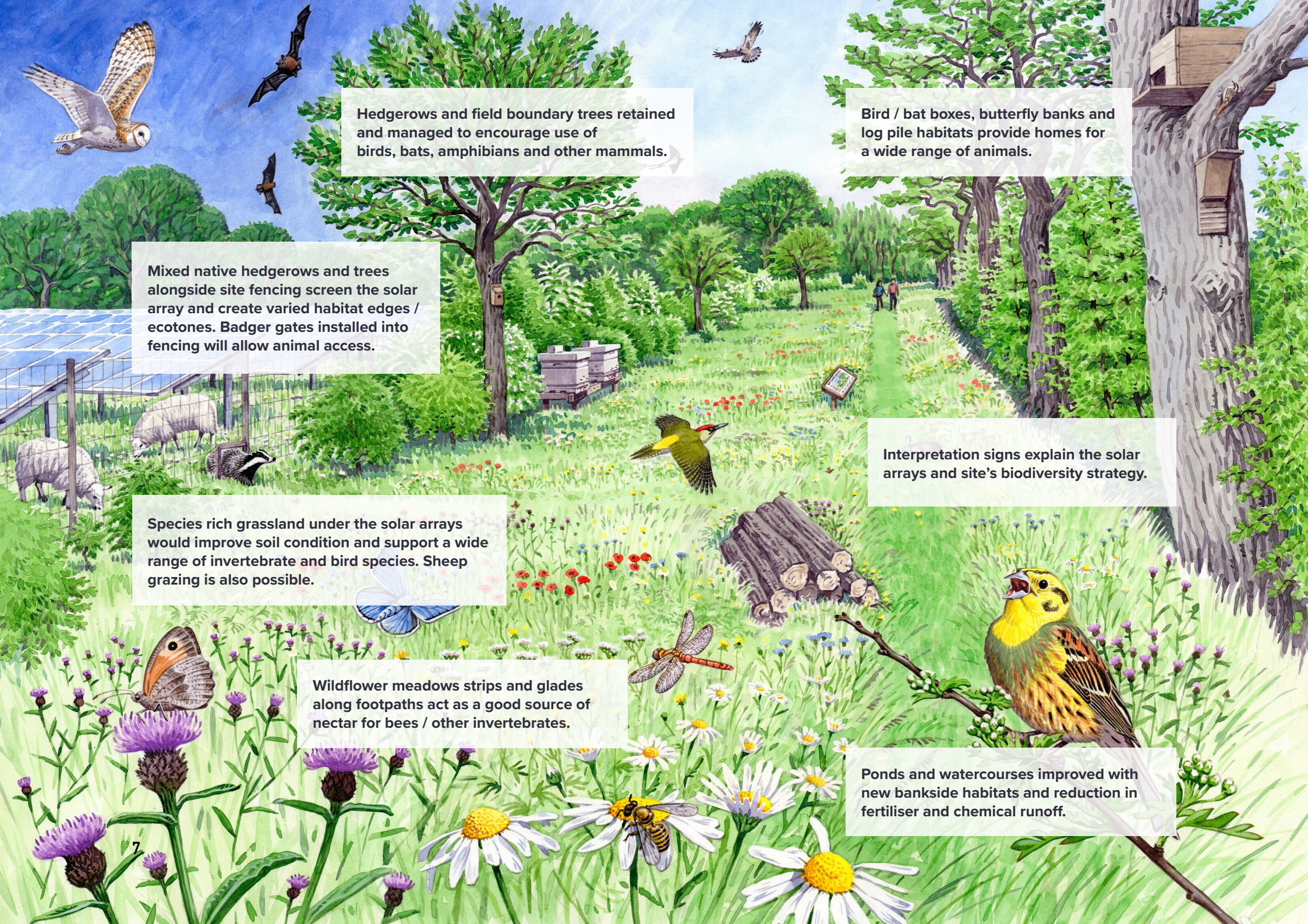
Site Design

The objective of the layout is to enhance energy production within the land available while ensuring only the most appropriate land is used and to ensure mitigation of any visual or environmental impacts if present.

As well as generating clean power, solar sites create opportunities for land management to increase habitats for biodiversity, - encouraging pollinators and allowing soils to regenerate. The UK solar industry has been working closely with ecologists. And studies are now showing increased populations of plants, insects, birds, and mammals on the land set aside for solar energy.







Hedgerows and field boundary trees retained and managed to encourage use of birds, bats, amphibians and other mammals.

Bird / bat boxes, butterfly banks and log pile habitats provide homes for a wide range of animals.

Mixed native hedgerows and trees alongside site fencing screen the solar array and create varied habitat edges / ecotones. Badger gates installed into fencing will allow animal access.

Interpretation signs explain the solar arrays and site's biodiversity strategy.

Species rich grassland under the solar arrays would improve soil condition and support a wide range of invertebrate and bird species. Sheep grazing is also possible.

Wildflower meadows strips and glades along footpaths act as a good source of nectar for bees / other invertebrates.

Ponds and watercourses improved with new bankside habitats and reduction in fertiliser and chemical runoff.

National and Local Planning Policies and Guidance on Renewable Energy Schemes

National

In June 2019, the UK became the first major economy in the world to pass laws to end its contribution to global warming. This requires the UK to bring all greenhouse gas emissions to net zero by 2050.

The Overarching National Policy Statement for Energy (EN-1) (2011) highlights that "around 33 GW of the new capacity by 2025 would need to come from renewable sources to meet renewable energy commitments.

Sustainable Development is at the heart of the National Planning Policy Framework (NPPF) 2019.

Chapter 14 of the NPPF outlines that the planning system should support the transition to a low carbon future in a changing climate; should help to shape places in ways that to reduce greenhouse gas emissions and support renewable (and low carbon) energy and associated infrastructure. Additionally, paragraph 153 outlines that when determining planning applications for renewable (and low carbon) energy, local planning authorities should:

- not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and
- approve the application if its impacts are (or can be made) acceptable.

Local

Uttlesford Local Plan (2005)

Policy ENV15 Renewable Energy states that "Small scale renewable energy development schemes to meet local needs will be permitted if they do not adversely affect the character of sensitive landscapes, nature conservation interests or residential and recreational amenity."

The development plan is silent on the form of development proposed and therefore weight needs to be attached to more up to date national policy.

The proposal can make a considerable contribution to providing electricity to around to 15,200 average homes per year within the District.

PPA & Timeline

The timeline below shows the anticipated target deadlines for producing various technical documents, including finalising the PPA.

The Heritage & Archaeology Assessment and Agricultural Land Quality Assessment have been completed. Most other technical reports are being prepared and will be completed in August 2021.

We have been liaising with the Council to prepare the PPA. Whilst this is to be finalised, the PPA confirms a number of aspects which we as the applicant will address in full.

PPA Requirements

Phase 1: Pre-application
•Pre-application submitted and currently being undertaken.
•Stakeholder consultation to be carried out.
•Council and applicant to agree submission package.

Phase 2: Submission of planning application

Phase 3: Consideration and determination
Council to communicate proposed outcome prior to recommendation at Committee

Legend

- Complete
- Ongoing
- Awaiting Appointment

Task Name	Duration (Weeks)	February	March	April	May	June	July	August
Landscape and Visual Impact Assessment	14							
Ecology Surveys & Reports	18							
Heritage & Archeology Assessment	2							
Agricultral Land Quality Assessment	2							
PPA	14							
Transport & CMP	4							
Flood & Drainage Study	4							
Public Engagement	10							
Planning & Access Statement	2							

Summary

Solar, with associated battery storage is playing an increasingly critical role in balancing the provision of renewable energy to meet increasing demand whilst contributing to the UK achieving our 2050 net zero target.

The design of the proposed solar and battery scheme in Felsted Parish has been carefully configured to provide crucial services to National Grid.

The scheme will enable high levels of renewable generation whilst being sympathetic to the area, particularly in terms of its visual and ecological considerations, and minimising the impact on best and most versatile agricultural land.

The site is ideally situated in relation to available capacity at the nearest substation with capacity to provide a connection. It is also located close to an existing solar facility which has been successfully assimilated into the landscape.