

RES is exploring the potential for a solar farm on land between Shipmeadow, Barsham and Ilketshall St Andrew in East Suffolk. We held a public exhibition in the local area, in November 2022, to share information on the preliminary design and to enable people to provide us with their feedback. This information sheet addresses some of the common questions and comments raised by the community, following the public exhibition.

Who is RES?

RES, a British company with headquarters in Hertfordshire, is the world's largest independent renewable energy company. At the forefront of the industry for over 40 years, RES has delivered more than 23GW of renewable energy projects across the globe and supports an operational asset portfolio exceeding 10GW worldwide for a large client base. RES employs more than 2,500 people and is active in 11 countries working across onshore and offshore wind, solar, energy storage and transmission and distribution.

Solar Infrastructure

The solar panels we are considering for Shipmeadow will be up to 3.6 metres tall. This height is becoming more common as solar technology becomes increasingly efficient allowing increased generation in a smaller area. The height also allows the optimum ground clearance of 0.7 metres for sheep grazing and is the effective height for the use of the more efficient bifacial panels which we propose for Shipmeadow. We are still in the design stages for Shipmeadow and the final height of the panels will be informed by a Landscape and Visual Impact Assessment (LVIA) which will also take into account the height of the hedgerow planting to be provided by the project. The LVIA will accompany any future planning application.

Technological advancements in solar panel manufacture in recent years has been significant. This includes an industry-standard move towards the use of the more efficient Monocrystalline (single crystal) technology. Monocrystalline solar cells are made from a very pure form of silicon, making them the most efficient material when it comes to the conversion of sunlight into energy.

As mentioned above, we are proposing the use of bifacial modules at Shipmeadow Solar Farm, which as the name suggests, have two sides of solar cells, enabling additional energy generation from the reflected and diffused light on the under-side of the panels. Solar panels do not require direct sunlight to produce energy - diffuse sunlight is sufficient, and a grass surface reflects enough light to justify the use of bifacial modules. The use of bifacial panels means that there is potential to produce more electricity in less space.



*Chalgrove Solar Farm, Oxfordshire
For illustrative purposes only*

RES is committed to ensuring that modern slavery, a term encapsulating human trafficking, forced labour and other forms of human exploitation, does not exist in our supply chain. RES, alongside many members of the UK solar industry, condemn and oppose any abuse of human rights, including forced labour, anywhere in the global supply chain. We support applying the highest possible levels of transparency and sustainability throughout the value chain and commit to the development of an industry-led traceability protocol to help to ensure our supply chain is free of human rights abuses. This pledge forms part of Solar Energy UK's supply chain sustainability workstream. If/when constructing the project, we would seek to maximise inward investment through the use of local contractors, however, given the specialist nature of some of the equipment, it is inevitable that there will be a need to source equipment from a wider supply chain which may be within the UK, Europe or worldwide. We would expect anyone in the supply chain to adhere to UK law on aspects related to quality, safety and ethical standards.

Grid Connection

A key driver for the location of any renewable energy project is its proximity to a viable grid connection. This helps large-scale solar, alongside onshore and offshore wind, to remain the cheapest forms of new electricity generation.

The availability of sites across the UK with sufficient export capacity is diminishing. The substation at Ilketshall St Andrew does have sufficient space and capacity to connect the clean renewable electricity generated by Shipmeadow Solar Farm. The proposed Shipmeadow Solar Farm project would connect via underground cables into the substation. There is no requirement for any new overhead lines and Shipmeadow Solar Farm will not require any extension works to the existing substation at Ilketshall St Andrew.

The UK energy grid system previously relied on a small number of power stations. As the grid system becomes increasingly powered by solar and other renewables, it has become much more diverse and distributed. Our grid is becoming smarter to match supply and demand. The UK's reliance on the use of natural gas to balance the system will reduce as more renewable electricity generation goes into the grid system.

Good for the Environment and the Consumer



Image for illustrative purposes only

As laid out in its Net Zero Strategy¹ published in October 2021, the UK Government has made it clear that solar and wind will be the backbone to achieving a secure, affordable and low carbon energy supply.

Large-scale solar, alongside offshore and onshore wind is now the cheapest form of electricity generation. The UK is still heavily reliant on gas for electricity generation and with the volatile price of gas unlikely to return to pre-Covid levels, accelerating the switch to renewables will lead to reductions in electricity bills for all consumers.

If consented, Shipmeadow Solar Farm would be capable of producing clean, green electricity for around 18,000² homes every year.

In addition, if consented, we estimate Shipmeadow Solar Farm would deliver around £130,000 in business rates annually. East Suffolk Council retains 100% of all the business rates from renewable energy businesses to fund vital local services for all local residents.

We believe that solar schemes should also provide meaningful benefits locally and we want to work with the local community to gain feedback on their priority projects and aims in the area, which the solar farm may be able to support, if it goes ahead.

¹ <https://www.gov.uk/government/publications/net-zero-strategy>

² The homes figure has been calculated by taking the predicted average annual electricity generation of the site and dividing this by the annual average electricity figures from the Department of Business, Energy and Industrial Strategy (BEIS) showing that the annual UK average domestic household consumption is 3,748 kWh (Dec 2021).

Use of Agricultural Land

Shipmeadow Solar Farm would not pose a threat to food security. One of the biggest risks to food security is the changing climate. This is clear from recent reports on how last year's drought is affecting harvests of staple crops including potatoes, carrots and onions³.

The solar farm will help towards tackling climate change and furthermore, is specifically designed to be dual purpose, enabling continued agricultural use, in the form of sheep grazing, and renewable energy generation.

Agricultural land covers between 56% and 70% of UK land. Solar farms in the UK currently have a combined capacity of around 14GW which makes up just under 0.1% of land in the UK. By comparison, the total land used by the UK's golf courses is 0.5% and airports is 0.2%. The UK Energy Security Strategy⁴ commits to increase the UK's current 14GW of solar capacity by up to 5 times by 2035. If the government meets its target of increasing solar capacity fivefold, ground-mounted solar would cover a total of around just 0.3% of the UK's land surface⁵ which is still less than the total land used by the UK's golf courses.

Sheep farming provides employment, supports rural economies and can produce a much more diverse ecological mosaic across the site. Species-rich grassland provides a wide range of forage for sheep livestock whilst keeping soils healthy and carbon-rich. Landscapes managed by grazing sheep support a rich diversity of wildlife, while producing food. A recent study⁶ suggests sheep living among rows of solar panels spend more time grazing, benefit from more nutritious food, rest more and appear to experience less heat stress, compared with nearby sheep in empty fields.

Furthermore, where a solar farm is installed on land which has been intensively farmed, it enables the ground underneath and the soil organic matter to recover. During the operation of the solar farm, there is no requirement for cultivation, fertilisers or pesticides associated with intensive agriculture. Indirectly, this leads to reduced soil erosion and better water quality. Solar farms are a temporary change in land use and do not result in removal, loss or sealing of agricultural land. At the end of the solar farm project, the solar panels can be easily decommissioned ensuring the availability of high-quality agricultural acreage for future generations.



3 <https://inews.co.uk/news/uk-drought-farmers-struggle-feed-cattle-cheap-meat-heatwave-1793194>

4 <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

5 <https://www.carbonbrief.org/factcheck-is-solar-power-a-threat-to-uk-farmland/>

6 <https://www.sciencedirect.com/science/article/pii/S0168159122002593?via%3Dihub>

Ecology and Biodiversity



There are no statutory environmental or ecological designated sites at Shipmeadow Solar Farm. An Ecological Assessment will be undertaken to assess potential impacts and inform the biodiversity and ecological enhancements to be delivered alongside the solar project.

To protect existing ecology on site, solar infrastructure will be set back a minimum of five metres from existing hedgerow as well as from rivers, drains and ponds.

Perimeter fencing for the solar farm would be in the form of deer fencing up to 2.4 metres high, with sufficient ground clearance and mammal gates to allow the free movement of small mammals. Deer fencing is typically situated inside of any boundary vegetation.

Solar farms have the potential to be of great benefit to certain fauna, particularly some bird species. The image to the left shows a kestrel using the solar panels at the RES-managed Stour Fields Solar Farm in Manningtree to hunt prey. As a result of eco-cutting at the solar farms that RES manages, the untouched wild grass has provided cover for small animals such as voles, wood mice and shrews which in turn have attracted birds of prey. According to the Barn Owl Trust⁷, solar farms have the potential to be of great benefit to Barn Owls as the array frameworks are typically at a height

from which Barn Owls can perch-hunt. Grass below and around the arrays can provide good Barn Owl foraging habitat.

The Shipmeadow Solar Farm also has significant potential to enhance ecological habitats and deliver Biodiversity Net Gain. The site is capable of hosting a range of habitats including wildflower meadows, hedgerows, nectar-rich areas for pollinators, and woodland. We endeavour to maintain all existing hedgerow and trees, and any new infill hedgerow planting proposed will be at least equal in height or taller at maturity than existing hedgerows.

Public Rights of Way and Permissive Paths

Following the public exhibition in November 2022, we understand how much the local community value the existing Public Rights of Way (PRoW). Shipmeadow Solar Farm is being designed to retain and protect all existing PRoW. Furthermore, solar infrastructure will be set back from the PRoW and permissive paths with new and infill planting provided to ensure the sense of openness is not compromised.

As part of the Shipmeadow Solar Farm proposal, RES is also exploring opportunities for improvements to the PRoW network, including the creation of permissive paths. Feedback from the public exhibition overwhelming indicated a desire for all potential permissive path options presented. We will continue to collaborate with the community, outdoor recreation groups and the local authority to design permissive paths and enhance public amenity.

⁷ <https://www.barnowltrust.org.uk/hazards-solutions/barn-owls-ground-mounted-solar-panels/>

Traffic and Access

The construction phase for Shipmeadow Solar Farm is anticipated to be approx. 12 months. Within that 12-month period there would be short periods of a few weeks where there will be peak traffic flow for equipment delivery. For the majority of the construction phase, traffic would be limited to personnel getting to and from site in work vans. Given that we are still at the design stage (February 2023), we are consulting with Suffolk Highways with regard to a delivery route and at this time there is no delivery route confirmed. We learned from the public exhibition in November 2022 that there are designated 'Quiet Lanes', concerns about traffic during seasonal harvests and concerns regarding road verges. We will continue to consult with Suffolk Highways and the local parish councils with the aim to mitigate traffic disruption by design.

A Construction Traffic Management Plan (CTMP) will be prepared to support any planning application. The CTMP outlines the overall framework for managing the safe movement of construction and delivery traffic as well as itemising the expected number of traffic movements and timing restrictions. The traffic movements will be limited to avoid morning and evening peak times, where possible.

Use of Water



*Hale Farm Solar Farm, Wiltshire
For illustrative purposes only*

New and/or infill planting will be proposed as part of Shipmeadow Solar Farm to minimise potential visibility as well as to provide a plentiful source of food and shelter for a range of fauna. Until such time a final design is achieved, we are unable to confirm the quantity or type of planting. The landscape planting will be informed by the Landscape and Visual Impact Assessment and the proposed planting will be identified within the Landscape and Ecological Management Plan which will accompany any planning application.

New planting will take the form of both native hedgerow planting and woodland planting and may be a mix of mature and immature plants dependent on the results of ecological and landscape assessments. As with any new planting, watering will be required but it is not possible to quantify the amounts of water required as it will be subject to climatic conditions and the plant species.

To maintain the productivity and efficiency of the solar panels, water will be used to clean the panels. The frequency of cleaning is typically every 6 months but is again subject to weather conditions. No detergents or chemicals are used in the cleaning of panels.

Glint and Glare

Solar panels are not highly reflective surfaces as they are designed to absorb sunlight and not to reflect it. A Glint and Glare assessment will accompany any planning application and will consider potential impacts on ground based receptors (residential dwellings and roads) as well as aviation.

Ongoing Engagement and What Happens Next?

Following the public exhibition in November 2022, RES offered to present a summary of feedback received from the consultation to Ilketshall St Andrew Parish Council, as part of RES' commitment to ongoing constructive engagement throughout the pre-application phase. The meeting which was arranged by the parish council was held in February 2023 and was also attended by a representative from Mettingham Parish Council.

RES is still in the design process for the proposed Shipmeadow Solar Farm and we are investigating the potential for solar generation within the same site boundary as per the preliminary design presented at the public exhibition. We are working towards a final design in the coming months and we anticipate a planning application submission later this year.



Prior to any planning submission, we will hold an information event in the local area to present an updated design for the proposed solar farm to stakeholders and the local community.

Further Information

If you have any questions, or would like further information, please contact:





Paoric McCloskey
Development Project Manager

 07799 900 569
 paoric.mccloskey@res-group.com



Carey Green
Community Relations Manager

 01872 226931
 carey.green@res-group.com

Or visit our website at:
www.shipmeadow-solarfarm.co.uk