one earth
solar farm

Welcome to our public information event for One Earth Solar Farm

One Earth is a proposed solar farm with associated batteries and infrastructure. It is located on approximately 1,600 hectares (3,950 acres) primarily in Nottinghamshire and would connect into the National Grid at High Marnham substation.

We are committed to developing One Earth in a way that is sensitive to the local community and environment, which is why we consulted on our early designs last Autumn to get feedback from technical experts and local residents. We have listened to feedback from that consultation and made a number of key changes to the project design, which we are now presenting for consultation.

This consultation is running from 29 May to 9 July 2024. This exhibition includes information about our updated plans and proposals for One Earth and how you can take part and share your views.

We encourage everyone to take part in the consultation and look forward to hearing from you.

Introduction to One Earth

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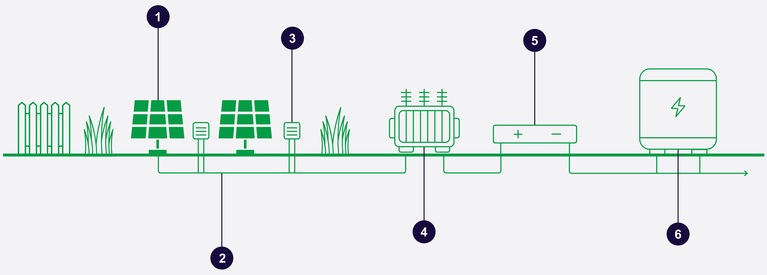
What is One Earth?

One Earth Solar Farm is a proposed new solar farm with associated battery storage and infrastructure. It would include the following components in order to capture the energy from the sun and prepare it to enter the National Grid.



1 Solar photovoltaic (PV) panels
Ground-mounted solar panels would collect energy from sunlight and turn it into electricity in the form of low voltage, direct current (DC). The heights of the panels would vary across the Site, with a maximum of 3.5 metres in many locations and 3.8 metres in areas of higher flood risk. Panels would typically be mounted on frames that are secured to the ground with steel poles driven into the ground, with no hard standing.

2 On-Site cabling
Underground cables would connect the solar PV panels to other parts of the solar farm, such as the power conversion stations and substations.

3 Power Conversion stations
These stations would prepare the electricity to connect to the grid. They would include an inverter to convert the electricity from DC to alternating current (AC), and a transformer to 'step up' the voltage.

4 On-Site substations Cables would bring electricity from across the Site together at substations, which would combine the power sources together and 'step up' the voltage again, so that the energy is ready to enter the National Grid.

5 Battery Energy Storage System (BESS)
The primary purpose of the BESS would be to store the energy generated by the solar panels at times when it is not needed by the National Grid and then release it to the grid when it is needed most. Additionally, the BESS would also provide vital grid services by taking energy from the National Grid, storing it during periods of low demand (when it could otherwise be wasted) and releasing it to the National Grid when homes and businesses most need it.

6 Grid connection
One Earth would provide 740MW of electricity into the National Grid at the High Marnham substation, which would be used to power homes and businesses locally and nationwide.

Who are the developers?

The companies behind One Earth Solar Farm are **Ørsted** and **PS Renewables**. Both companies are leaders in the development of renewable energy across the UK and are working together to develop the Project. When two companies collaborate in this way it is common to establish a new project-specific company which, in this case, is **One Earth Solar Farm Limited**. Representatives of **PS Renewables** and **Ørsted** sit on the board of this company and are responsible for providing funding and oversight of the development of **One Earth Solar Farm**. If the Project is granted development consent, it is **Ørsted's** ambition to become the owner and operator.

PS Renewables Green Energy Investments

Ørsted

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Why here?

The National Grid connects power sources to power users across the country. Its pylons and substations run like a spine, up and down the UK to support us. For a new energy project to come online, the grid needs to have capacity at that location. When the old coal-fired power station was decommissioned, it created capacity at the High Marnham substation for new energy sources to connect to the National Grid.

Once we secured a grid connection at High Marnham substation, we invited landowners close to the grid connection point to join the Project, and included parcels of land that would be suitable to solar development based on factors such as sufficient levels of light and relatively flat topography.

Why do we need it?

In the fight against climate change, the UK has committed to reducing carbon emissions to net-zero by 2050 and removing fossil fuels from the power sector by 2035. As we phase out older forms of power generation, such as the former coal-fired power station at High Marnham, new renewable energy sources must be developed to replace them. At the same time, we are relying more and more on electricity in our daily lives. As petrol cars and gas boilers are phased out, demand for electricity is projected to double by 2050. To meet this growing demand for renewable energy, we need to develop a mix of renewable energy sources, including wind, rooftop solar, and large-scale solar farms.

One Earth could make a significant contribution to meeting this need, producing enough clean energy to power more than 200,000 UK homes each year.

Did you know?

The last working coal power plant in the UK is Ratcliffe on Soar in Nottinghamshire, which will be fully decommissioned by October of this year.

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The development process

One Earth is a Nationally Significant Infrastructure Project (NSIP), because it would produce more than 50MW of energy. This means that we are required to submit an application for a Development Consent Order (DCO). Unlike planning applications which are determined by local authorities, NSIPs are submitted to and decided at the national level. We will submit our DCO application to the Planning Inspectorate, an independent body that administers the process of reviewing and examining the DCO application on behalf of the Secretary of State for Energy Security and Net Zero. The Examining Authority will make a recommendation about whether to approve the Project, before a final decision is made by the Secretary of State.

Pre-application consultation is an important part of the development of an NSIP, to ensure valuable local knowledge is built into the project. Last Autumn, we completed a first round of consultation on our early designs and proposals. We considered the feedback we received, alongside results of ongoing environmental assessments, to update our project. We are presenting our updated design and proposals for this second round of consultation.

Indicative timeline

- First Consultation (non-statutory) **Autumn 2023**
- **WE ARE HERE**
- Second Consultation (statutory) **Summer 2024**
- DCO application submitted **Winter 2025**
- Examination **Summer-Autumn 2025**
- Examining Authority's recommendation **Spring 2026**
- Secretary of State's Decision **Summer 2026**
- Construction could begin **2027**
- One Earth could become operational **2029**

*Subject to change

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Our updated project

During our first consultation, we asked for feedback on our project. We have reviewed all of the feedback we received and made several changes to address key concerns.

YOU SAID:	WE DID:
Reduce visual impacts from villages and the historic setting	We have removed panels around villages wherever possible to reduce potential impact to views and the historic setting of the villages.
Set panels away from homes to reduce visual impact	We have created bespoke buffers around homes that are near the project boundary to reduce impacts to amenity.
Protect wildlife and the local environment	We have added environmental enhancement areas to create new habitats for local wildlife and are including measures to assist wildlife to move across the site wherever possible.
Protect public rights of way	We have created buffers to reduce visual impact from the existing public rights of way, and also added new permissive paths to enhance recreational opportunities and access across the site.
Provide more details and visualisations about the components of the Project	The updated design shows the potential locations for batteries, substations, and the river crossing. We are also presenting visualisations and a 3D model to help demonstrate how the project could look and fit into its local environment.

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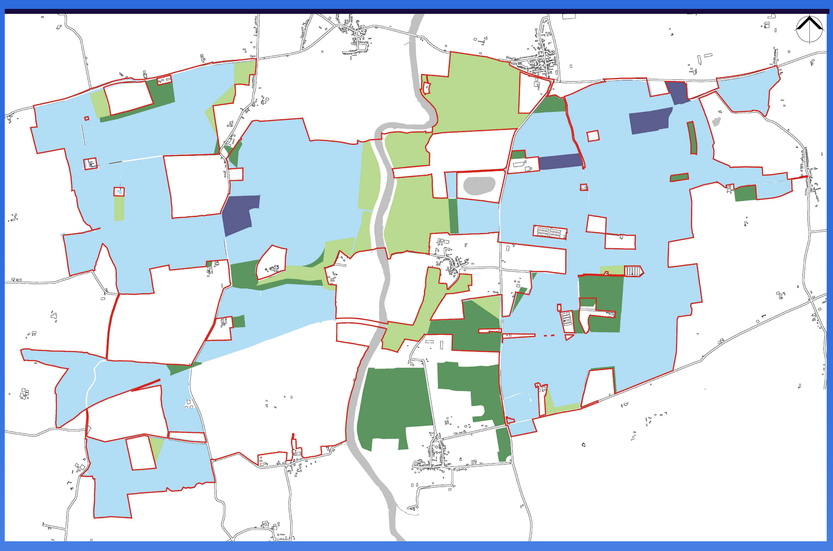
Changes around villages

One key piece of feedback that we received during the first consultation was the importance of protecting the views and the setting of local villages. We considered not just the views from homes, but also the views along roads and public rights of way used during the approach. The updated design includes many changes to address this feedback, as detailed below.

Changes in development areas between first and second consultations



- Red line boundary
- Key areas of mitigation / enhancement land that remain unchanged since non-statutory consultation
- Developable land that has remained within our project since non-statutory consultation
- Land removed from developable area since non-statutory consultation. May be used for cables and access where land falls within rebounday
- Land added to our project since non-statutory consultation

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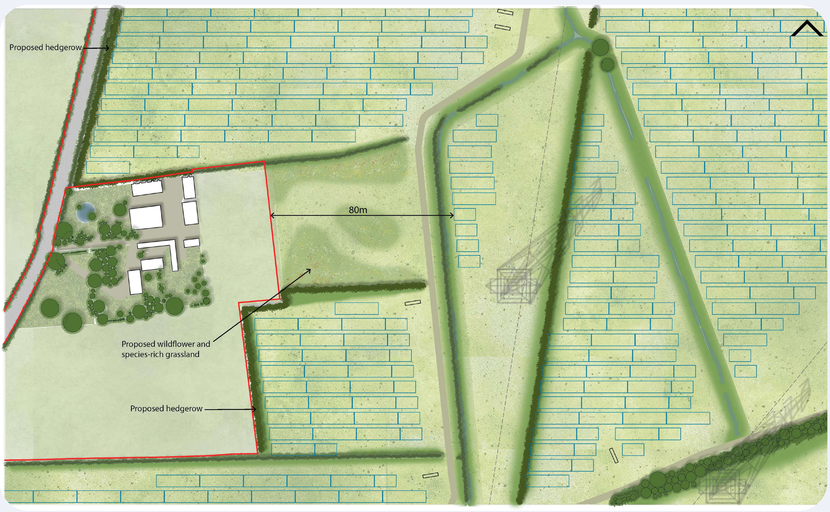
Buffers for local homes

Another concern raised during our first consultation was the potential visual impact on homes located close to the project boundary. In addition to the changes made around the villages, we developed bespoke solutions for these properties to minimise any impact on amenity.

To create these tailored designs, we completed site visits to these properties where possible, as well as using surveys from publicly accessible locations and aerial imagery.

We designed these solutions in response to the principal view from each property, considering factors such as the orientation, openness, and the focus of each view from the property as well as the view from roads used to access the property.

The following are examples that demonstrate the approach taken to residential offsets across the masterplan.



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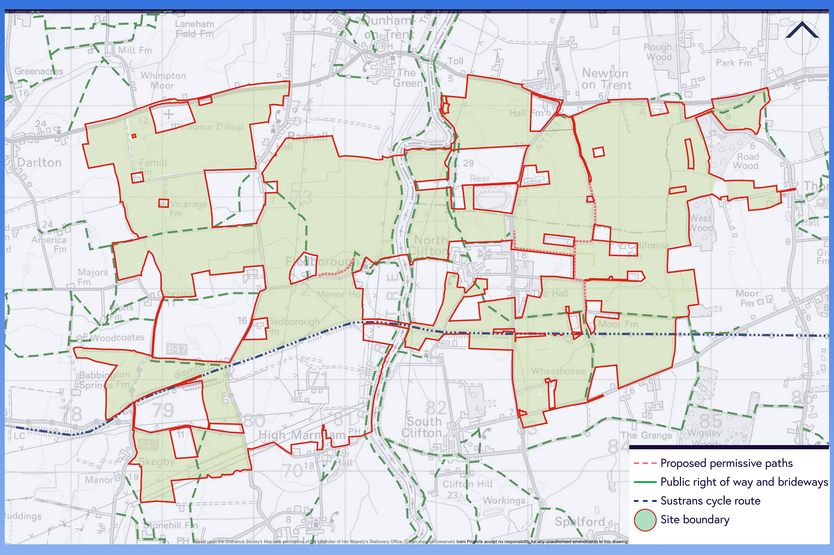
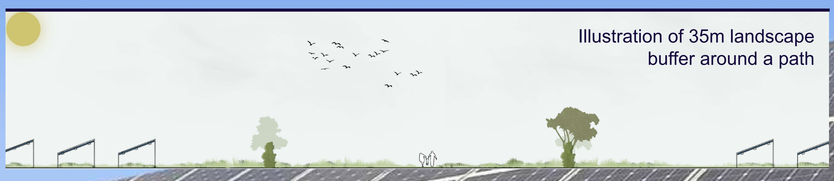
Environmental enhancement and recreation areas

The updated design includes more than 350 hectares (741 acres) that would be set aside to support native species and the local environment. These ecological enhancement areas have been developed in line with the results of ongoing environmental assessments to protect important species that have been identified in the area, as well as create new habitats to increase biodiversity across the site.

We are taking steps to protect the amenity of existing footpaths and bridleways across the Site, as well as to open up new ways of walking, cycling and riding locally. These respond to feedback from the last consultation. We have set the panels back from the existing public rights of way by a minimum of 15m to either side, up to over 100m in some locations. Across the site, we have added new permissive paths to increase access and connectivity in the area. The new paths have been proposed where there is currently limited public access and to provide connections across the existing public right of way network. They would be open to the public for recreation, including walking, cycling and equestrian use throughout the operational lifetime of One Earth.

Existing and proposed paths across the project site





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Locations of key infrastructure

Our updated design also includes potential locations for key components of the Project, including the battery energy storage system (BESS), substations, and the cable that will cross the river. These locations were selected based on the engineering requirements to produce an operational solar farm, while also reducing impacts to the community and environment.

Substations and BESS

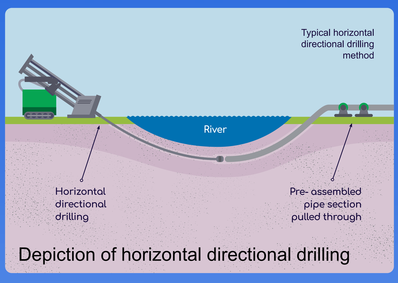
One Earth would need two substations; one on the east and one on the west of the River Trent, which would be co-located with a BESS. We identified locations of these elements that would avoid and minimise potential impacts, including:

- Located outside of areas with high risk of flooding.
- Located at least 300m from residential properties, where possible.
- Located at least 100m from public rights of way.
- Located within the existing field pattern to retain existing hedgerows and trees.
- Accessed from the main road network to avoid the need for large infrastructure to be transported through villages.
- Located and designed in line with best practice with regard to health and safety.

Example of a substation

River crossing

The Project would require a cable to cross the River Trent to connect the components on the east of the River Trent to the grid connection point on the west. We explored several options that were feasible and eliminated those that created greater impacts on the environment and community, including visual impact, traffic and construction, and movement of wildlife across the Site. We are now considering two options, either using a horizontal directional drill which would take the cable under the River Trent, or attaching the cable to the viaduct to pass over the River Trent. We will continue to review environmental and technical assessments in addition to consultation feedback to further refine this decision.



Depiction of horizontal directional drilling

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Protecting the local environment

Due its size, we are required to complete an Environmental Impact Assessment (EIA) for One Earth. The EIA will assess One Earth's likely significant effects on the environment. We must also explain what measures we propose to mitigate any likely significant adverse effects. During this consultation, we are presenting our Preliminary Environmental Information Report (PEIR). This includes the preliminary results of the EIA, which is ongoing. Key finding include:

Topic	Assessments	Significant Effects	Measures to reduce effects
Wildlife and ecology	We have been undertaking ecology surveys across our Site since May 2023 to identify different protected species (such as bats, birds, newts and water voles) and different habitats (such as hedgerows, trees and grasslands), as agreed with Natural England and the local authorities.	No likely significant effect	During construction, we will implement environmental construction protection measures to seek to ensure local wildlife is not harmed. Once operational, the Project will result in significant benefits to local wildlife due to the proposed environmental enhancement areas.
Water and Drainage	We are using data from the Environment Agency including flood maps and water depths to better understand the flow of water across the Site. We took aerial videography in April 2024 of the flooding across the Site to ensure the models we use are realistic.	No likely significant effect	We have adjusted the heights of the bottom of the panels to 1.8m above ground level in areas of high potential flooding to allow debris to move under the panels during flood periods. The components that require hard standing, such as the batteries and substations, have been placed outside of the flood zone to avoid impacts to existing ditches, drains, streams, or the River Trent.
Landscape and Views	We have completed walkovers across the Site, as well as a desk-based search of landscape character and Public Rights of Way.	Potential likely significant adverse effect	We will use good practice construction measures to seek to reduce impacts during the construction phase. Once operational, the updated design includes a number of considerations to reduce visual impact, including setbacks from villages, residential properties, and footpaths, as well as new plantings to act as a natural visual screen once mature.
Heritage and Archaeology	We have completed walkovers across the Site, as well as desk-based research of existing heritage assets on the Site.	Potential likely significant adverse effect	The updated design includes measures to seek to reduce impact to heritage assets, including buffers around Scheduled Monuments on the Site, a setback within Fledborough to protect the connection of the Church with the village, a setback in Newton on Trent around the Hall Farmhouse (Grade II).
Noise and Vibration	We have completed noise monitoring on various times of day and days of the week to understand the base level of noise across the Site.	No likely significant effect	The components of the solar farm that make some noise are the substations, transformers, inverters, and batteries. This noise is very localised and is anticipated to only travel 300m from the source, so the updated design places these items at least 300m from properties to seek to avoid impacts, where possible.
Socio-economic	We have gathered and reviewed population and economic data for the area to understand the current employment in the area, as well as developed projections for what new jobs would be needed to construct and operate the Project.	Likely significant positive effect	The Project will take roughly two years to construct, requiring 750 jobs at its peak. This is an increase of 28% of total employment in the local area. Once constructed, the Project would be operational for 60 years and need approximately 15-20 full time permanent jobs. We are working with local authorities to ensure these jobs benefit local residents wherever possible.
Human Health	We have obtained available population and health data for the local area, as well as reviewing research specific to the health impacts of solar farms and related infrastructure.	Likely significant positive effect	We will use good practice construction measures to minimise dust and air pollution and resulting impacts on human health. Once operational, the updated design includes new footpaths to promote recreation across the Site. The design has been changed to minimise visual impacts wherever possible, to minimise impacts on mental health. The substations and batteries have been located at least 300m away from properties to minimise any impact of Electromagnetic Force (EMF). The remaining EMF from the underground cables has been found to be no more than household appliances.
Agriculture and Soil	We have completed soil sampling to determine its quality and understand where the best and most versatile (BMV) land (considered Grades 1, 2 and 3a) are located across the Site.	No likely significant effect	We have removed BMV land from the Project wherever possible. Currently, half of the Project is on BMV land. We will use a Soils Management Plan to protect physical properties of the soil during construction. Once operational, the soil beneath the panels will be left to rest, without disruption due to regular ploughing or application of chemical fertilisers and pesticides. At the end of the Project's lifespan, the soil will likely be higher quality and agriculture could be resumed.

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Constructing One Earth

If One Earth is granted consent, we would expect to start construction in 2027 and complete it by 2029. Some parts of the site would be needed to support construction, and the levels of activity would vary during this period. We welcome your feedback on the construction process set out below.

Temporary works

We will need to do some work within the Site to prepare for construction, by establishing:

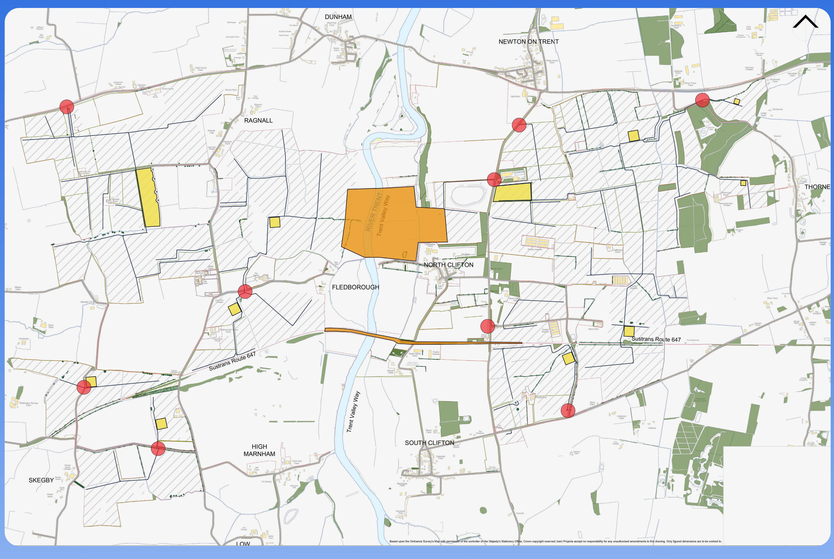
- Construction compounds within the Site to allow for unloading materials and staff parking, storage areas, welfare facilities and offices. Entrances to compounds would be located within fields and managed by staff controlling deliveries to reduce traffic backing up onto roads.
- Private access roads to link access points to the construction compounds and for travel within the site.

Working arrangements

Working hours would typically be between 7am to 7pm Monday to Friday and typically 7am to 1pm on Saturday, with no work on Sundays or Bank Holidays. There may be times where we need to work outside these hours – for example, when we need to move a very large item like a transformer that cannot be broken up (called an 'Abnormal Indivisible Load'), we may do this at night or in the early hours of the morning. We would agree activities like this in advance with local authorities and communicate in advance with residents.

Traffic management

Construction is likely to take place over approximately 2 years, though the level of activity on site would vary throughout this period. At the very peak of construction, we estimate that there would be an average of 272 HGV movements and 120 light vehicle movements per day. These would access the Site using the A57 or A1133 before transferring to the private access roads.



- Potential location for interconnection cable route
- Potential location of construction compounds
- Potential location of construction access points
- Access track
- Developable area

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Community benefit

Ørsted and PS Renewables, the companies behind One Earth Solar Farm Limited, have a proud history of investing in the communities where we work to ensure that the benefits of the clean energy transition are also felt locally. We recognise that projects like this may affect people who live and work nearby.

During our first consultation, we asked what you would like to see as part of a community benefit package. We have been exploring the options that were suggested and are now asking the community to provide feedback on what would be the most impactful.

Community fund

A number of respondents suggested providing support for specific organisations and infrastructure in the local area. To meet this need in a fair and equitable way, we are considering the creation of a Community Fund, administered by a third party that would review applications from not-for-profit organisations, for projects that support the community around the Project.

Jobs and skills programme

We will need a range of skills and expertise to build and operate One Earth and would like to use local labour whenever possible. We are working with local authorities and educational organisations to identify any local skills gap, and create a training opportunity to develop a local, skilled workforce. This could include the development of an apprenticeship programme, a training module within an existing programme, or new programme as needed. As the legacy of One Earth, we would aim to develop this local skill set for use across other solar developments, traditional construction projects and emerging technologies.

Reduced energy payments

One common piece of feedback from the first consultation was a request for reduced energy payments or other cost benefit for the local community. We are exploring the feasibility of providing reduced energy payments to properties located around the Project for a fixed period of time.

Research and development opportunity

We are considering including area for potential research and development. We would like to work with a local educational institution to manage this area, for ongoing innovation. Topics could include agrivoltaics, which incorporate farming practices under and between panels, methods to increase biodiversity or soil quality, or other research topics to help lead to innovation in the way solar farms are able to fit into their local environment.

Provide your feedback

To respond to this consultation, please submit your written feedback by 11.59pm on 9 July 2024 through the methods to the right:

- Complete a questionnaire online at the website: oneearthsolarfarm.co.uk
- Complete a paper questionnaire, available at the Information Events, Community Access Locations or by request and return to the One Earth Solar Farm Freepost SEC Newgate UK Local (no stamp is needed)
- Email info@oneearthsolarfarm.co.uk, or write to the freepost address above

Next steps

After the consultation has ended, we will review and consider all of the feedback we have received. All feedback will be considered alongside the results of the EIA to inform an updated design for submission in the DCO application.

Within the DCO application, we will include a Consultation Report that shows how we have had regard to all consultation feedback and how the Project has further evolved as a result of that feedback.

Get in touch

www.oneearthsolarfarm.co.uk

info@oneearthsolarfarm.co.uk

0800 169 6507 Answered 9am-5pm on weekdays, or leave a message and we will call you back

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