

# Reach Community Solar Farm

## Design and Access Statement

Spring Hall Farm

Blackberry Drove

Reach

Cambridgeshire



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# Introduction

- 1.1 This Design and Access Statement supports the planning application for a community-owned solar farm of 507kW capacity on land off Blackberry Drove, Reach.
- 1.2 The solar farm will consist of 2112 solar panels mounted on frames, along with a substation and transformer to connect the system into the 11kV overhead line that crosses the land.
- 1.3 A number of other documents are provided to support this application. These include:
  - Site plan (RCSF002)
  - Location plan (RCSF003)
  - Flood Risk Assessment (RCSF004)
  - Details of materials (RCSF005)
  - Layout plan (RCSF006)
  - Archaeological evaluation report (RCSF007)
  - Rules of Reach Community Solar Farm Ltd (RCSF008)
- 1.4 A Screening Opinion was received from the East Cambridgeshire District Council (reference 13/00634/SCREEN) indicating that a full Environmental Impact Assessment would not be required for this development. An archaeological assessment and a flood risk assessment were however requested. To address other environmental concerns we discuss the visual impact of the development, impact on ecology and biodiversity, and a transport plan within this document.
- 1.5 The solar farm will be owned by a not-for-profit co-operatively run company, using investment raised from the local community. The community have been involved from an early stage in the proposals.

# Site Location

- 2.1 The site is on agricultural land between Blackberry Drove and Little Fen Drove, to the west of the village of Reach.
- 2.2 The land is flat and level, and is currently used for grazing. It is our intention to allow grazing to continue around the solar panels after construction of the solar farm.
- 2.3 The site is bordered to the north-east and north-west by more agricultural land; to the south-west by Little Fen Drove, and to the south-east by Blackberry Drove.
- 2.4 There is existing access to the land from Little Fen Drove. We anticipate a relatively small number of deliveries to the site during construction, so we do not propose upgrading the access.
- 2.5 An 11kV power line crosses the south-eastern end of the land. We intend to connect the system into this power line.
- 2.6 The site is approximately 500m from the outskirts of the village of Reach. However, it is in a secluded location and the development would be visible from only two residential properties. The development is largely screened from Little Fen Drove and Barston Drove by hedgerows.



## Purpose

- 3.1 The purpose of the development is to generate renewable electricity, roughly equal to that used by the residential households in the village of Reach – estimated to be approximately 450,000kWh per year.
- 3.2 Currently, the majority of electricity in the UK is generated by thermal power stations using fossil fuels. These power stations contribute significantly to climate change through the carbon dioxide that they emit. Many coal-burning stations are due to be shut down over the next few years as they do not meet modern environmental standards.
- 3.3 There is therefore an urgent need to introduce new forms of energy generation which do not rely on fossil fuels. The UK is committed to increasing capacity from wind farms, solar arrays, and wave and tidal power.
- 3.4 Solar farms consistently enjoy strong public support compared to other forms of renewable generation. The Government has stated an ambition to reach 20GW of installed solar capacity by 2020.
- 3.5 The Government has also stated that it particularly supports community-led renewable energy projects. Our project will be owned and managed by local people, and will benefit the local economy as well as contributing to national targets.

## Proposed development

- 4.1 2112 solar panels will be used in the scheme. Each solar panel measures 1.66 by 0.99m, and the panels will be mounted in rows of two on steel frames. The lower edge of each frame is approximately 0.4m from the ground, and the upper edge no more than 2.5m from the ground.
- 4.2 The frames will be installed in rows facing south, in order to maximise the power generated by the panels.
- 4.3 A substation and transformer will be required in order to connect the system into the overhead 11kV line that crosses the land.
- 4.4 Cabling will run underground from the mounting frames to the transformer and substation, and from the substation to the 11kV line.

## Appearance

- 4.4 Solar panels have a uniform dark blue appearance when viewed from a distance. Glare is reduced by using a textured glass to cover the solar cells.
- 4.5 The combination of the dark neutral colour, anti-reflection glass and low height of the frames means that they are relatively unobtrusive compared to agricultural structures such as polytunnels or greenhouses.

## Screening

- 4.6 As the maximum height of the frames is less than 2.5m, it is relatively easy to screen solar farms from surrounding roads and footpaths by appropriate planting.
- 4.7 There are already hedgerows along Little Fen Drove and Barston Grove which screen most views of the site. Recent planting has been carried out to improve the screening. We intend to plant a new hedge along the south-eastern border of the site.

## **Continued use for agriculture**

- 4.8 Our intention is to mount the frames so that sheep can graze around the panels. As the land is currently used for grazing in any case, this means that the solar farm will have little impact on the productivity of the land. Allowing grazing around the panels will also reduce the need for maintenance visits to control vegetation around the panels.

## **End of life**

- 4.9 The solar farm has a design life of approximately 25 years. It is designed to be easily dismantled and to have minimal lasting effect on the land.
- 4.10 The solar panels can be unbolted from the frames, and are largely made of recyclable components (aluminium and glass). The steel mounting frames themselves are also easily dismantled. The mounting system we intend to use does not require concrete foundations, but instead relies on screw-driven piles on which the frames are mounted. These can be removed and recycled when the solar farm reaches the end of its useful life.

## Planning Policy

### National Policy

- 5.1 The EU has agreed targets to reduce greenhouse gas emissions levels by 20% by 2020 (compared to a 1990 baseline), in order to meet legally-binding commitments made under the Kyoto Protocol.
- 5.2 A commitment has also been made to generate 20% of energy from renewable sources by the same date. The figure is an average across the EU, and different countries have accepted different targets. For the UK, the target is for 15% of energy to be produced from renewable sources by 2020.
- 5.3 In order to meet these commitments, the UK passed the Climate Change Act of 2008, and published a UK Renewable Energy Strategy in 2009.
- 5.4 The National Policy Statement for Energy (EN-1) was subsequently passed by parliament in 2011. Section 2 of EN-1 describes the need for planning decisions to take account of our legally binding commitments to meet our greenhouse gas emission reduction targets, and highlights (section 2.2.4) that it is the role of the planning system to provide a framework which permits the construction of the necessary infrastructure.
- 5.5 Section 3 of EN-1 expands on the need to quickly adopt low-carbon generation in the light of the impending closure of around 12GW of capacity from large thermal power stations, which are to be closed under more stringent regulations covering emissions in the Large Combustion Plant Directive. Section 3.4 covers the role of renewable electricity generation in particular, and emphasises the urgency of the task, stating that *"to largely decarbonise the power sector by 2030, it is necessary to bring forward new renewable electricity generating projects as soon as possible. The need for new renewable electricity generation projects is therefore urgent"*.
- 5.6 In March 2012 the National Planning Policy Framework (NPPF) was adopted by Parliament. At its heart are twelve Core Planning Principles, one of which is the following (paragraph 17): *"Planning should support*



*the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy)".*

- 5.7 This Core Planning Principle is expanded in paragraphs 93 to 108. Paragraph 93 states that "*Planning plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development.*".
- 5.8 Paragraph 97 covers the role of communities in contributing to new forms of energy generation, and states that local planning authorities should "*recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources*". It further states that authorities should "*support community-led initiatives for renewable and low carbon energy*".
- 5.9 In paragraph 98, the NPPF states that "*when determining planning applications [for renewable energy developments], local planning authorities should... approve the application if its impacts are (or can be made) acceptable*".

## **Local policy**

- 5.10 The Local Plan for East Cambridgeshire is currently at a draft stage, and will be submitted for approval by Government shortly.
- 5.11 The draft plan is supportive of both community-led development and of renewable energy projects.
- 5.12 On page 35 the draft plan states that "*the District Council is generally supportive of community-led development. This may include schemes involving affordable housing, small business units, renewable energy*

*generation and other appropriate uses."*

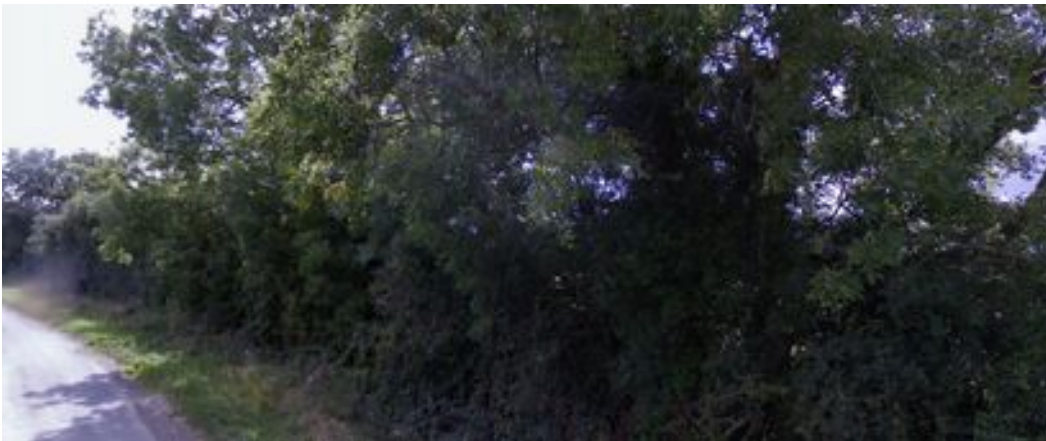
- 5.13 On Page 68, it adds that "*proposals for renewable energy schemes will be supported wherever possible*".
- 5.14 Renewable Energy provision is also covered by Policy EN4 in the East Cambridgeshire Core Strategy (2009). The text is very similar to that used in the draft Local Plan, stating again that "*proposals for renewable energy and associated infrastructure will be supported wherever possible, unless their wider environmental, social and economic benefits would be outweighed by significant adverse effects*".

## Visual Impact

- 6.1 The site is currently an open field, used for grazing. It is close to two quiet country roads (Barston Drove and Little Fen Drove).
- 6.2 Hedgerows and more mature trees provide screening around much of the site along Barston Drove and Little Fen Drove. A further well-established hedge screens the site from the neighbouring properties, and recent planting has been undertaken to improve the screening.
- 6.3 We propose planting a new hedge along the south-eastern boundary of the development. This will provide additional visual screening from the junction of Barston Drove and Little Fen Drove.



- 6.4 Passing vehicles and pedestrians will approach no closer than around 70m to the site. As this is a relatively small development for a solar farm and as the frames will be no more than 2.5m high, the frames will not dominate the landscape even where they are in full view.
- 6.5 We consider here the visual impact of the site from the four viewpoints shown on the map.
- 6.6 **Approaching from North-East along Barston Drove**



The northern side of Barston Drove is thickly planted with trees and hedgerows, which screen the site effectively. The site is not visible from this location, so there is no visual impact.

- 6.7 **Junction of Barston Drove and Little Fen Drove**



The hedgerows and trees which line Barston Drove end where it turns onto Little Fen Drove, leaving a clear view of the site. The closest part of the solar array will be approximately 150m from this junction.

Given the relatively small scale of the development, the distance at which it will be seen, the low size of the frames and the neutral colour of the panels, we do not consider the visual impact to be significant. We do intend however to plant a new hedge along the south-eastern boundary of the site. This will provide additional screening and security.

## 6.8 Midway along Little Fen Drove



The field margin is bordered by hedgerows towards the south-eastern end of Little Fen Drove, and a stand of larger trees provide screening approximately halfway along the site. To the north-western end of the site the planting is thinner however, and the site is visible through gaps in the cover.

Recent planting has taken place in gaps in the hedgerow, and as this matures the site will be better screened from view. Further planting along this boundary will be carried out if necessary to maintain screening along this boundary.

## 6.9 Approaching site from North-west



The hedgerows and recent planting do not extend beyond the ditch that marks the north-west boundary of the site, so the development will be visible in the distance when approaching the village from this direction.

Additional planting along the ditch marking the north-eastern boundary of the site is not possible, as regular access is required by the Drainage Board for maintenance. However, as with the view from the junction of Barston Drove and Little Fen Drove, we do not feel that the development will have a significant impact on the landscape.

## Ecology and biodiversity

- 7.1 The site has historically been used for agricultural purposes, primarily as arable land. In recent years it has been grazed. The land is currently classified as grade 2, but at the west end of the field chalky outcrops are emerging through the clay loam. It is likely that if reassessed today it would be re-classified as grade 3.
- 7.2 The ground cover is currently grassland. There is low biodiversity value in the current ground cover.
- 7.3 A thick hedgerow borders the site to the north-east, offering habitat to nesting birds and small mammals. To the north-west and around the northern corner of the site runs a ditch which is maintained and regularly cleared by the local drainage board. As the site occupies half of an existing field, there is currently no defined border along the south-west or south-east edges of the development site.
- 7.4 There will be no changes to the maintenance regime for the hedgerow or ditches as a result of the development, and thus there should be no impact on the biodiversity or ecology of these habitats.
- 7.5 The proposed new hedge along the south-eastern boundary of the site will be planted with native species. This will provide additional refuge for birds and small mammals.
- 7.6 We intend to maintain the site as lightly grazed grassland beneath and around the panels. There will therefore be little change to the current ground cover habitat.
- 7.7 During the development there may be some impact on species at the site owing to vehicle movements over the land and digging of cable trenches. However, the expected vehicle movements at the site during the build are little more than would be expected if the land was used for agricultural purposes. During the operational period vehicle movements on the site should be very rare – maintenance and inspection visits should be required at no more than monthly intervals.

- 7.8 The fertility of the soil will benefit greatly from the grass ley that will be present underneath the panels during the operational period. When the panels are removed and the land reverts back to arable production the soil should be in a much improved state.
- 7.9 The net impact of the development on biodiversity is likely to be positive. If the land continues to be used for agricultural purposes, the land will at best remain grassland, and at worst will be regularly ploughed and planted with a succession of monocultures.



## Community Benefit and Community Involvement

- 8.1 The solar farm will benefit the community by the provision of clean, renewable energy. The array that we propose will generate approximately the same amount of electricity each year as is used by the households in the neighbouring village or Reach.
- 8.2 The project is community-led, and the first round of funding will be targeted at local people. Income generated from the sale of electricity and the feed-in tariff will therefore be returned to local people.
- 8.3 The company owning and running the farm – Reach Community Solar Farm Limited – is an Industrial and Provident Society for the Benefit of the Community that has been set up by local people specifically for the purpose of constructing the solar farm. Community benefit is enshrined in the rules and articles of the company. A copy of the rules have been included with this planning application.
- 8.4 The company has a co-operative structure, so that local investors will have a say in how the company is run. We expect that the management board will primarily be people from the village.
- 8.5 While investors will get a fair return on their investment every year through an interest payment, additional profit that is made will be donated to a community fund.
- 8.6 We have engaged with the community throughout the planning for this project. We held a public meeting in the village centre which was attended by more than 40 residents of the village, and we displayed our plans at a stand at the village fair. We have also contributed a series of short articles on the project to the community magazine.
- 8.7 The archaeological survey for this project was also undertaken as a community project. Around 20 volunteers from the local community helped with the dig.

## Access and transport plan

- 9.1 Access to the site will be via Little Fen Drove, which borders the site to the South-East.
- 9.2 The construction phase will not significantly increase traffic levels nearby. An HGV can carry approximately 550 solar panels, so the solar panels required account for only four HGV loads. A few additional HGV loads will be required for mounting frames and other components. The traffic generated by the build will therefore be very small in comparison to other users of the road (eg agricultural vehicles and lorries using the nearby grain store).
- 9.3 The small number of HGV loads that will be required will be routed via the junction of Little Fen Drove and Headlake Drove rather than through the village of Reach, in order to avoid narrow lanes, tight corners and residential areas in the village.
- 9.4 We anticipate the construction phase taking around 60 days. In addition to materials arriving, there will be some contractors arriving by van or car. However, we would rarely expect more than 4-5 vehicles on site on any one day, and so traffic levels around the site will not be significantly increased.
- 9.5 During operation, the site will need infrequent visits for maintenance. We expect that on average less than one visit per month will be required.
- 9.6 There are no public rights of way on the site.

## Summary

- 10.1 The proposed development contributes to both local and national policies for increasing renewable energy capacity and reducing carbon dioxide emissions. The proposed array is designed to be large enough to meet the electricity usage of households in the neighbouring village.
- 10.2 The site is outside the village envelope, and largely hidden from view. Whilst it will be visible from a few stretches of public highway, we intend planting of hedges to mitigate the visual impact. The remaining affect on visual amenity will not be significant, and there should be no other adverse environmental effects.
- 10.3 The local community is at the heart of this proposal, and community benefit is enshrined in the rules of the Industrial and Provident Society that has been established for the development. The project will be both owned and managed by local people.