AURA POWER

Proposed Marsh Lane Solar Farm

- 30MW Export Capacity
- c.12,000 homes powered each year[1]
- +166% Biodiversity Net Gain for Habitats
- £12,000 a year Community Benefit Fund
- School visits for local schools
- 20,300 equivalent number of electric cars powered[3]
- c. 11,000 tonnes CO2 saved[2] each year
- Over £80k annually to Mid Suffolk Council each year
- Construction and suppliers jobs created

Illustrative plan only – a technical layout can be viewed with the planning application

*1 Estimated stated figure is calculated using BEIS 'Sub-national electricity consumption statistics 2020' which reports an average domestic consumption per Mid Suffolk Household of 4,625kwh *2 Estimated figure calculated using the UK Greenhouse Gas Conversion Factor, BEIS, July 2021 of 0.19338 Tonnes Carbon/MWh NV Calculations based on an approximate electricity production of 55,700Mwh per annum *3 Estimated figure calculated using an average mileage of 9435 miles per year (MOT data from RAC Foundation) and an average power consumption of 2,887 kWh (Electric Vehicle Database 2021)

Introduction

This briefing has been prepared by the applicant and developer of Marsh Lane Solar, Aura Power, as a **helpful summary of the plans**. **Following extensive pre-planning work** including a range of surveys, assessments and consultation with the community, a **planning application has now been submitted** to Mid Suffolk and South Norfolk Councils. To view the full suite of planning documents please do so by visiting Mid Suffolk's Planning portal using the reference number: **DC/23/05426**.

We will now **work closely with the Council's Planning Officers and Statutory Consultees to satisfy any concerns** by providing additional information and making amendments to the site design, if necessary. It should be noted that **this application is independent from the adjacent solar farm**, which has recently been approved. We have accounted for this scheme in our site design and **do not anticipate any significant cumulative impact**.

We have **consulted extensively with the nearest residents** regarding the design of our proposed development and in addition to offering a **yearly community benefit fund**, we are also proposing to include surface water drainage measures to alleviate existing flooding issues that local residents are experiencing on Millway Lane. **Community engagement is an ongoing process**, and **we welcome an open dialogue with all local stakeholders**, throughout the determination of the planning applications.

The Development Proposal

The proposed development is for a solar farm with an export capacity of **30 Megawatts (MW)**. It would generate enough electricity to power the equivalent of around **12,000 typical homes**[1], **saving around 11,000 tonnes**[2] **of CO_2 annually**, compared with electricity generated by gas. Proposed landscaping measures are calculated to significantly improve the local natural environment, with a **significant Biodiversity Net Gain of 166%.**

Tackling the Climate Emergency and Energy Security

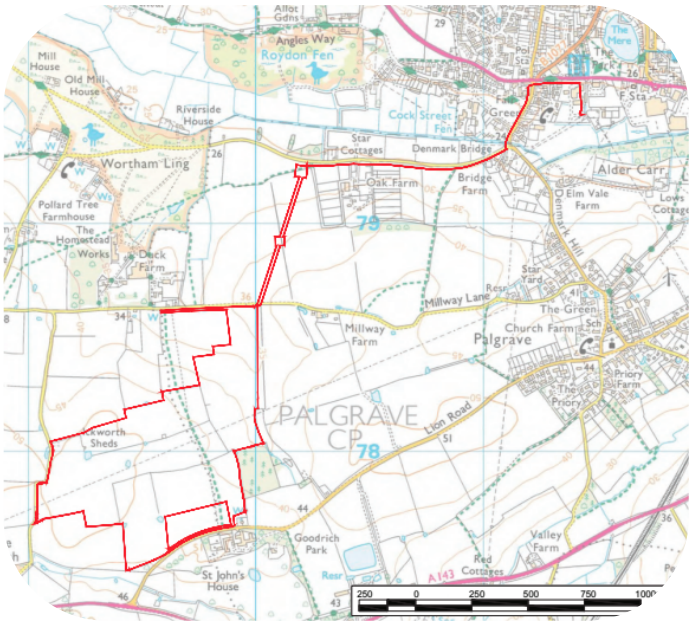
The UK Government's Energy Security Strategy released last year anticipates a deployment of **70 Gigawatts (GW) of solar by 2035** in order to reach the **UK's legally binding 2050 Net Zero carbon emissions** target and completely **decarbonise the electricity grid by 2035**. This is a **five-fold increase in the current deployment of** solar and equates to a need for around one solar farm between 30-50 MW being approved across the country each week.

As we transition to a Net Zero economy, **electricity demand is forecast to increase threefold** due to the move away from fossil-fuel-based heating and transport. **These targets cannot be met solely through rooftop solar** and ground-mounted solar is also required to meet this monumental challenge.

Mid Suffolk Council has declared a climate and biodiversity emergency and aims to become **carbon neutral by 2030**. Projects like Marsh Lane solar farm, which can be deployed quickly, can provide immediate solutions to **address both the climate crisis and biodiversity crisis** supporting Mid Suffolk's commendable carbon reduction and biodiversity targets.

Site Location

The site is located in the parishes of Wortham (c.60%) and Palgrave (c.30%), on land between Millway Lane and Lion Road and to the east of Marsh Lane. You can view the site on Google Earth here.



The total site area is approximately 50 ha (123 acres). The actual footprint of solar panels and **infrastructure will disturb less than 2% of the land area**. The land is owned by three local landowners all looking to diversify their business operations, as farming becomes increasingly challenging through unpredictable market conditions. **The land will remain in food production** through **sheep grazing** for the lifetime of the proposed development.

Site Selection

The **site is considered suitable for a solar farm** due to:

- Good levels of sunlight (solar irradiation) in this part of England.
- A **nearby grid connection** with secured capacity.
- Majority of the site is already well screened and suitable set back from residences, with existing trees and hedges and the **potential to screen almost entirely with additional planting.**
- **Suitable access** for construction, operation and decommissioning.
- **Not subject to any landscape, heritage or ecological designation.**
- Land is stable and free from contamination.

Design

The **site has been designed to mitigate potential impacts** wherever possible and **comply with local and national planning policy and guidance**.

The solar farm would feature:

- **Arrays of ground-mounted**, fixed-tilt, bifacial photovoltaic panels. The panels will be arranged in rows, spaced over 2 m apart, facing south at an angle up to 20 degrees with a **maximum height of 3 metres.**
- Panels would be mounted on support frames that are driven into the ground. A ballast system may also be used in areas of sensitive archaeology.
- Panels will have a **lower edge of approximately 0.7m**, allowing space for sheep to graze beneath them and for biodiversity enhancements.
- **Perimeter fencing with wooden posts** for security, approximately 2m high, designed to allow access for small mammals.
- **No lighting on the site**, other than during construction.
- **New site maintenance roads**, with the appearance of typical farm tracks with a crushed stone surface, with grass growing over them in time.
- **Transformer stations, painted dark** green, similar in appearance to a shipping container.

- **String inverters located beneath the panels** to enable the direct current (DC) to be converted to alternating current (AC) electricity.
- A **substation** containing electrical infrastructure and surrounded by a security fence, to connect into the grid network via a **cable route to the UKPN substation in Diss**.
- Storage units for spare parts.
- Temporary construction compound.
- **Footpath retained to a width of 10m** with wildflower planting alongside.
- Landscaping and biodiversity enhancements (see below for more details).

Ecological and Biodiversity Enhancements

It is widely acknowledged that the UK faces not only a climate crisis but also a biodiversity one. By **taking land out of intensive agricultural use**, and with appropriate design and management, a **solar farm can result in a long-term beneficial increase in biodiversity** (Solar Trade Association, Natural Capital Value of Solar, 2019).

All field margins and buffers will be retained, increased and enhanced, where possible. Landscaping and biodiversity enhancements include:

- **c.50 ha of traditional grazing grassland**
- **0.4 ha of woodland** and forest
- **Species rich wildflower meadows**
- **New pond** to reduce existing surface water run off
- **1.47 km** of newly planted species rich **native hedgerow and trees**

This will **create new habitats** of higher ecological value and **improve wildlife connectivity** in the area. Overall this is predicted to result in a net change from baseline conditions of **166% biodiversity net gain for habitats**, **60% for hedgerows** and a **33% gain from watercourse units**, measured using Defra's Biodiversity Metric. This is **substantially higher than the 10% minimum** required by the 2021 Environment Act. The **soil will benefit** from a break from intensive agricultural use, which will **boost its organic matter** and carbon sequestration.

A Biodiversity Management Plan and/or **Landscape Ecological Management Plan** (LEMP) will be produced to further detail the planting schedule and its maintenance.

Continuing Agricultural Use and Supporting the Farming Industry

The Agricultural Land Classification report submitted shows that the site consists predominantly of **grade 3a (c.85%), and subgrade 3b (c.15%)**.

Much of the land has been used for growing cereal crops of wheat, barley and oats on a rotational basis which are then **used for animal feed**.

The Basic Payment Scheme of **farm subsidies is gradually being phased out**, with a **significant negative impact on farm incomes**, particularly for smaller farms such as those involved in this development. Advice from Government, advisory bodies and agricultural professionals is to **diversify farming businesses** to replace this lost income. Each of the three landowners farm land outside this development and have expressed how this

development will allow them to **continue their farming practices with certainty**. One of the involved landowners has said:

*"Development of clean and reliable energy fits with current national policy and also my plans for working towards a future for my business**. Current policy recommends removing land from intensive arable production** to increase biodiversity – I have considered alternatives such as rewilding, however following guidance recommends around 10% of my arable land total being removed from production, **if the lost income from which is not replaced would make my business totally unviable**. Therefore, **this presents the ideal opportunity to reduce my amount of intensively farmed land by approximately 10%**, achieve increased biodiversity and wildlife habitats within and around the proposed solar farm area and **provide an income stream to replace the lost revenue** from arable crops and their associated subsidies. Evidence and political thinking increasingly suggests that smaller farms are better placed to lead on the environmental changes needed now and in the future, **which this scheme strongly supports**."*

Native grassland will be sown beneath the panels for **sheep to graze** and **food production to continue**. We are applying for planning permission for 35 years, which would be guaranteed via a planning condition, so the proposal would not result in the permanent loss of agricultural land. The **solar farm would stay in agricultural use throughout its life** and when it is decommissioned all infrastructure associated can be easily dismantled, removed offsite and **largely recycled**.

Glint and Glare

Solar panels are designed to absorb light rather than to reflect it and are oriented facing south. They are **safe to install close to airports and major roads**. The reflection from a solar farm is much less than commercial greenhouses, polytunnels and even grass – from a **distance they appear in the landscape similar to a ploughed field** or small lake. An assessment of the potential impacts of glint and glare has been undertaken and mitigation measures included, which once introduced predict there to be **no significant effects**.

Noise

While solar panels generate power silently, the supporting electrical equipment (inverters and transformers) emits a very low hum, **almost unnoticeable**. The scheme will operate during the daytime only. A noise assessment has concluded that noise from the site would **not cause a negative impact on residential amenity**.

Visual and Cumulative Assessment

A full Landscape and Visual Assessment (LVA) has been carried out, and photomontages demonstrating the visual impact have been submitted with the planning application. **Ten viewpoints have been agreed with the Council** to determine the magnitude of change in views and **one additional viewpoint from Millway Lane** has been included following a request from the local community.

The location has been sensitively selected and **designed to minimise the visual effects** of the solar development.

Overall, these viewpoints have indicated that whilst parts of the proposal would be visible from a short section of Millway Lane and Lion Road, this visibility would, in time, be **screened entirely** by intervening vegetation.

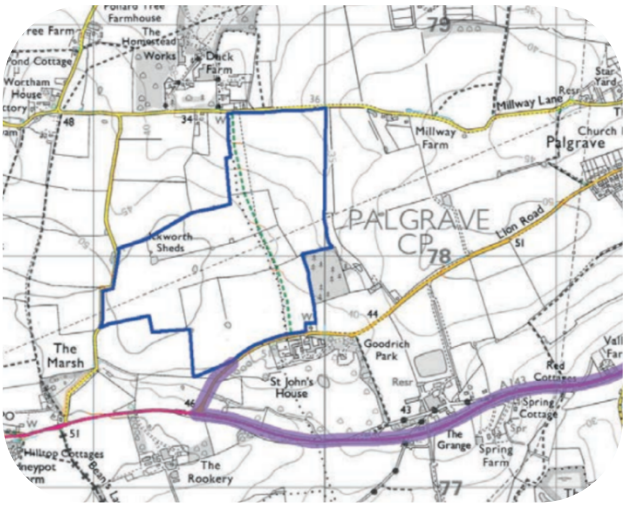
Potential cumulative impacts of the Marsh Lane Solar Farm with Grange Solar Farm are considered in the Landscape and Visual Assessment in Chapter 8 and with the effects of screening, it is expected that the combined visibility of both schemes would be slight/negligible with only **minor effects on visual amenity**.

The mitigation measures in the north of the site were **developed through consultation with the closest residents** on Millway Lane. This resulted in **scaling back the development** and **increasing the setback from the properties** on Millway Lane to **retain the openness** immediately in front of these properties, as well as including **additional planting** for screening.

Native tree and hedgerow planting is proposed in a number of strategic locations across the site for screening purposes and by Year 10 the majority of the **proposal would be screened entirely**.

Access, Construction and Maintenance

The site will be accessed via an **existing field entrance on Lion Road to the south of the site**. The route for delivery of the solar farm components **avoids nearby villages** and approaches Lion Road from the A143 as shown in the image to the right.



A traffic assessment undertaken confirms that the site can be **accessed safely at this location**.

Construction is expected to take around **6-8 months**. The total number of vehicle movements averages at around 24 movements per day. Construction traffic is anticipated to be at its **peak in the first couple of months**.

Deliveries will be restricted, where possible, to off-peak periods and a **Construction Traffic Management Plan** will be agreed with Mid Suffolk Council ahead of construction taking place.

Once the **solar farm is operational there is very little traffic**. A small number of vehicle movements is required for maintenance, typically carried out by a small van, once a month.

Flood Risk

Solar farms do not contribute to flooding on, or off the site as the arrays are designed with gaps to allow surface water to be evenly dispersed and absorbed by a healthy grass sward underneath. The panels are elevated and won't be affected by surface water flood sources.

The site is **located within Flood Zone 1**, which means it is at the **lowest risk of flooding from rivers or seas**. There are some areas of surface water flooding identified in the northern part of the site, particularly on Millway Lane. This was verified by the residents during pre-application consultation and a **flood alleviation strategy** has been prepared detailing measures designed to **alleviate the existing flooding**.

Benefits

- **Increased biodiversity** and **improved habitats for wildlife** addressing the biodiversity crisis.
- Homegrown source of energy **supporting the UK's energy security.**

- **Solar is the cheapest form of energy** generation and can collectively **bring down power prices** for everyone.
- **Offsets approximately 11,800 tonnes CO_2 per annum**, that would otherwise be generated by gas.
- **Flood alleviation measures** proposed to **reduce existing flooding on Millway Lane**.
- **Boost to the local economy** - **Local suppliers** are encouraged to tender for the associated works required for construction and maintenance.
- Ancillary benefits arising from contractors from outside the area staying locally and using local services which is estimated to generate up to **£1 million spent locally**.
- **Solar farms are unsubsidised** meaning no tax payers money is used to deliver this scheme.
- A **community benefit fund** will be set up providing **£12,000 every year** for 35 years, to the local community.
- The fund will be managed by local people and will support local projects as well as providing **school trips for local schools**.
- The supply of **clean, renewable energy** equivalent to the annual energy needs of approximately **12,000 Mid Suffolk homes.**
- **Addresses climate change** and contributes to **local and national carbon reduction targets**.
- Contribution of around **£80,000 per year in business rates** to Mid Suffolk Council.
- **Supporting farmers to diversify**, offering a reliable income **helping the long-term viability of their farming business.**

Engaging with the Local Community

Community involvement is an integral and important component of planning and as such, we **take a proactive approach to engaging with the local community**.

Pre-application consultation was undertaken in two phases. We initially met with the nearest residents and Parish Councillors in November 2022. The meeting was to **understand initial feedback from those who would be most impacted by** the proposed development and to **discuss options for preferred setbacks and site design**.

We then undertook an **online webinar and public exhibition** for the wider community. Invitations were sent to all properties within a **2km radius of the proposed site**, extending slightly further west to capture the properties of Magpie Green. **Around 50 people attended the events**.

In response to the feedback received, we:

- **Removed approximately 18 acres** from the initial proposed solar site from the fields immediately to the south of Millway Lane.
- In response to learning about the existing flooding on Millway Lane, we have **proposed a series of flood alleviation measures to improve the existing flooding issue** residents are facing on Millway Lane. Full details of this can be seen in the submitted Flood Alleviation Strategy.
- Understood that residents would prefer to **retain a level of openness** and therefore any planting should be located around the perimeter of the solar panels as opposed to the edge of the field boundaries – this has been incorporated into the design.
- **Removed all grade 2 land** entirely from the development.
- **Increased the setback from Millway Lane** and included a large wildflower meadow.
- **Extended wildlife corridors and screening** with **increased new native tree and hedgerow planting**.

Community engagement is an ongoing process and Aura Power is always open to speaking to residents and councilors and are **welcome to contact us at any time.**

Support for Solar

Government studies consistently show that **solar power is the most popular energy-generating technology** in the UK. The BEIS quarterly public attitudes tracker surveys show support for solar energy has remained between 80% and 90% throughout the life of the tracker. making it the most popular renewable technology.

A recent (2022) study by Solar Energy UK on public attitudes to solar found that the majority of people surveyed support the development of solar farms in their areas. Of those whose view has changed since the installation of a solar farm in their area, **significantly more are more supportive (17%) rather than more opposed (2%).**

In order to reach the **five-fold increase required in solar**, the Government has set up **The Solar Taskforce** to form a **strategic roadmap for setting out a clear deployment trajectory to achieve 70 GW of solar by 2035**. **This target cannot be met by rooftop solar** alone and it is calculated that of England's 58 GW share of the total target, between **23 GW and 38 GW will need to be ground-based**, accounting for around 0.7% of English farmland. **The UK has more than enough agricultural land to accommodate the required amount of ground mounted solar without impacting food security.**

Solar farms are not only a crucial part in **bolstering the UK's energy dependence** but they are the **cheapest form of renewable generation** and can **reduce energy costs**. The UK planning process ensures that any **impacts are suitably mitigated**, and the **benefits are significantly promoted**.

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