

Gerrardstown Solar PV installation

Project update & FAQs

September 2023

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1 Introduction

During the planning process, residents raised a number of questions about the proposed Gerrardstown Solar Farm. We have updated our project FAQs. We hope you find this information useful.

2 Community benefit fund

Energia believes local communities deserve to benefit from the construction and operation of our renewable energy sites. The Gerrardstown Solar Farm will operate a substantial community benefit fund for the lifetime of the project, which will support community groups, voluntary organisations and environmental projects in the local area. The solar farm will begin allocating project grants, based on an annual application process, one year after the start of commercial operation.

Energia is proud to work with the Community Foundation for Ireland (CFI), Community Foundation NI (CFNI) and Fermanagh Trust who administer funds on our behalf across the island of Ireland. Our benefit schemes are designed in conjunction with the local community to ensure that our funding has a positive and lasting impact. Our total benefit fund investment to date is approaching €4 million - and growing.

Where we operate a number of renewable energy developments in close proximity to one another, we look at the potential of combining funds to provide a more impactful level of community investment, whilst always prioritising grant applications from the immediate area around each site. (For example, in the case of our 'Tyrone Three' fund in Northern Ireland, we're able to offer community groups an opportunity to apply for much larger capital grants, whilst still making smaller amounts available for a wide range of activities and projects. To find out more visit our community benefit fund page on our website: www.energiagroup.com.)

Please note that the community benefit fund, as outlined above, is totally separate from any other source of local investment required as a planning condition, such as the Local Authority Development Contribution or business rates. As a condition of the current planning consent, a development contribution of €595,000 will be payable to Fingal County Council prior to commencement of the development.

3 Working with schools

Energia have a number of solar farm projects in development and we are looking to set up an additional community investment scheme which offers to fund the installation of rooftop solar panels for some of the rural schools closest to our projects. This scheme would promote energy efficiency and sustainability – two of our top priorities as a major utility company specialising in renewable energy development and innovation.

Commented [GR1]: I think we should include the amount as per the Planning conditions....."in this case 595,000 will be payable to Fingal County Council prior to commencement of the development"

Commented [EM2R1]: I added it in there. @Billingham Rosy is this ok?

Commented [BR3R1]: Don't see a problem. It's just benefit fund we're not putting a figure on.

4 Construction Traffic

The Gerrardstown Solar Farm will consist of two separate parcels (western and eastern). An individual access point is provided for each parcel.

During the peak construction period, it is estimated that there will be up to 20 daily HGV deliveries in total. The level of peak construction traffic associated with the proposed development is no greater than the typical peak traffic associated with the current land use practices.

In order to minimise disruption, Energia Renewables will agree a Construction Traffic Management Plan (TMP) with the local planning authority regarding delivery scheduling, restrictions and limitations.

[The TMP will include details on:]

- Delivery restrictions that will remain in place throughout the construction phase. Construction material deliveries (HGVs) will be restricted to quiet periods (outside rush hours and school drop off/collection times). Energia will liaise with local schools to ensure that delivery schedules are appropriate.
- Energia will operate a delivery booking system to assess daily delivery schedules for the week ahead to minimise disruption.
- Temporary signage will be used to direct construction traffic to site. The site contractor will provide banksmen, or signallers, to assist with the manoeuvring of delivery vehicles to and from site.
- Hauliers will be required to contact the site manager to confirm the time for a delivery to ensure that the team are fully prepared on site in advance of its arrival.
- Sufficient periods of time will be scheduled between deliveries to allow for unforeseen delays or overruns (such as loading/unloading) in order to avoid having vehicles waiting to access the site.

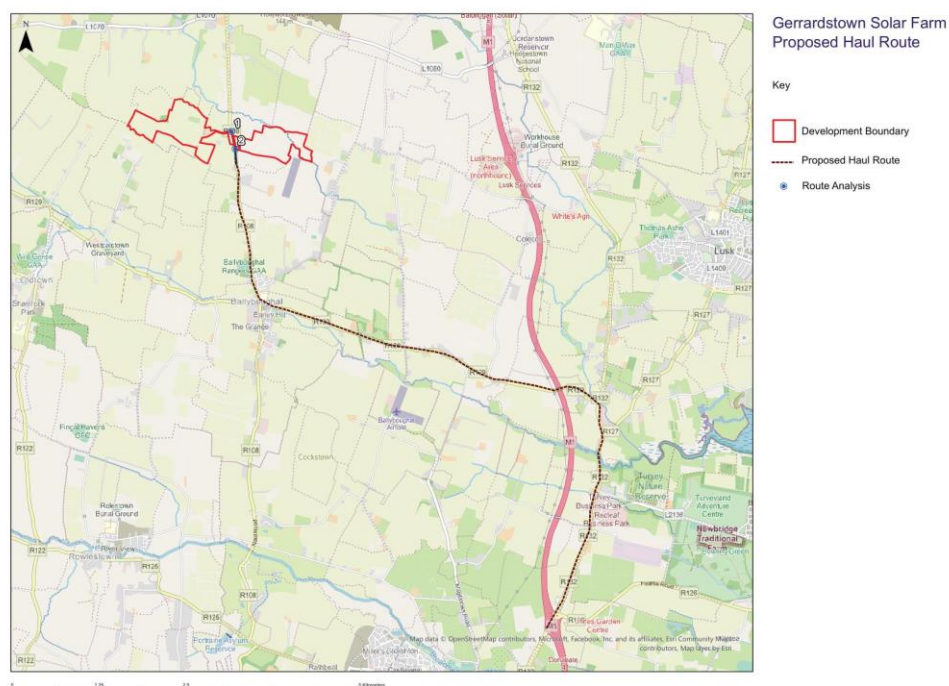
Please contact our Community Liaison Officer with any questions you may have relating to these measures so that we can discuss any additional requirements.

Commented [FÉ4]: It would be good to reference our CLO will be contactable to engage on any unforeseen issues Energia can look to address in addition to all these proactive measures etc.

Commented [ME5R4]: @Farrell Eanna does that work? @Billingham Rosy can you take a look.

Commented [BR6R4]: Don't say unforeseen.

Haulage routes and site access points



5 Glint and glare

A common misconception about solar PV panels is that they create glare, posing a nuisance for residents and a safety risk for pilots. While in certain situations the glass surfaces of solar PV systems can produce a glint, or momentary flash of bright light and even a longer-lasting glare, it should be remembered that the panels are designed to absorb, rather than reflect light.

The panels are constructed of dark-coloured materials and are covered with anti-reflective coatings, which emit 'specular' reflectance rather than a 'diffuse' reflectance. A number of studies have shown that photovoltaic panels have similar reflectance characteristics to water. Similar reflectance levels commonly found in rural environments include shed roofs, lines of plastic covering used in cropping and wet roads.

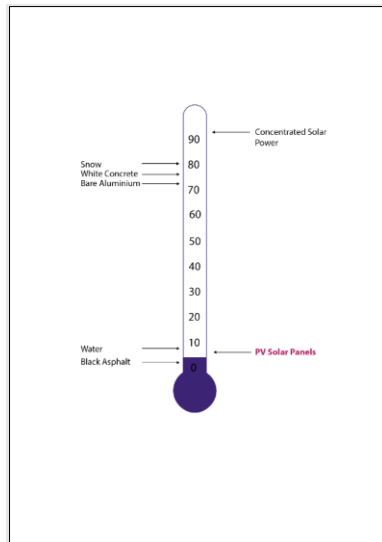
As part of the planning application, a detailed assessment was carried out on potential impacts on ground and air-based receptors, including residential dwellings and roads (within 1km) and aviation (within 30km). This assessment concluded that the Gerrardstown Solar Farm would have no impact on road and air-based receptors.

Commented [FÉ7]: Are we conditioned to repeat the G&G for construction design/as-built? i.e. no risk we'll deviate and make things worse etc.

Commented [ME8R7]: @Ni Cheallaigh Doireann can you answer this?

Commented [ND9R7]: The following is one of the conditions from Fingal: The developer shall comply with any future requirement of the Planning Authority in relation to additional mitigation works regarding glint and glare issues that may arise but may only become apparent when the installation is commissioned. REASON: In the interest of amenity and traffic and aviation safety.

Percentage of reflected solar



6 Noise

Construction Phase

During the construction phase of the development, noise generated on site will be similar in nature to other construction sites, road works or agricultural operations.

The key activities with the most potential to result in noise effects are; (i) the construction of tracks and hard standing areas, (ii) Installation of mounting frames, including piling.

Construction of Tracks and Hardstanding Areas			
Noise level from Activity	Noise Level from Activity at nearest noise sensitive receptors (130m)	Standard acceptable construction noise limit	Exceedance from standard construction noise limit
73dB at 10m	51dB	70dB	-19dB
Installation of Mounting Frames, Including Piling			
Noise level from Activity	Noise Level from Activity at nearest noise sensitive receptors (75m)	Standard acceptable construction noise limit	Exceedance from standard construction noise limit
75dB at 5m	52dB	70dB	-18dB

The highest noise level from the construction of access tracks is likely to be the compaction machine used. The closest new access track to a noise sensitive receptor is 130m south of the solar farm. Noise levels from the compaction machine will be a maximum of 73dB at 10m. As the distance from the compaction machine increases, the noise levels will decrease. At the nearest noise sensitive receptor, the noise level is predicted to be 51bB. The standard construction noise limit at noise sensitive receptors is 70bB and therefore the noise level associated with these works is low.

Noise levels from piling associated with the mounting frames will be a maximum of 75dB at 5m. As the distance from the piling increases, the noise levels will decrease. At the nearest noise sensitive receptors, the noise level is predicted to be 52dB. The standard construction noise limit at noise sensitive receptors is 70dB, and therefore the noise level associated with these works is low.

Construction noise levels will be managed appropriately, and noise mitigation measures will be employed where necessary:

- Noise generating equipment will be located as far as possible away from noise sensitive receptors (e.g., dwellings).
- Noise complaints will be investigated.
- If necessary, temporary barriers or screens may be erected around equipment, such as generators or compressors.
- All construction traffic will have effective and well-maintained silencers.
- Equipment and technology with low noise level generation will be selected where possible.

(Operational Phase)

- Solar panels themselves do not generate noise. The only source of noise from solar farm infrastructure is from the MV power stations and inverters.
- The proposed development will be in operation during daylight hours only. The noise levels of the MV Power Stations will change throughout the day, reaching their peak when the solar farm is generating maximum power, usually when the sun is high in the sky just after midday.
- A detailed noise assessment was carried out for properties within 500m of the proposed development. It was concluded that noise associated with the proposed development would be negligible and is significantly below the existing baseline.

Commented [FÉ10]: Should we have a similar table/dBa reference like the construction phase? Should Construction Phase come first?

Commented [ME11R10]: @Ni Cheallaigh Doireann

Commented [ND12R10]: I've added a table in. The reason i left this out is because it reference a background noise of 35dB. This is fine for operational noise comparisons, but the likes of Orla might compare the background noise with the noise expected noise during construction, which is greater than 35bD.

Commented [EM13R10]: @Ni Cheallaigh Doireann would you recommend leaving it out based on that then?

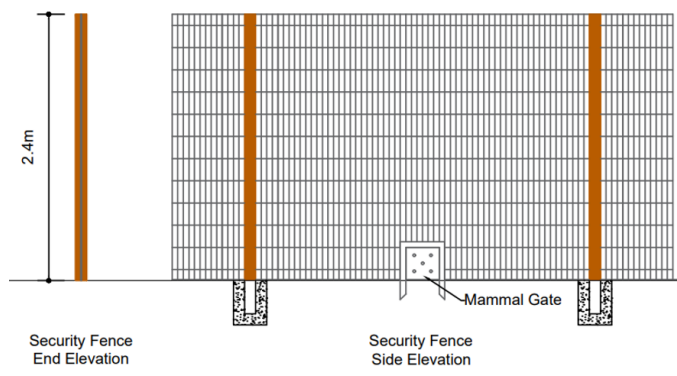
Commented [DNC14R10]: i would be minded to

7 Security fencing

The proposed solar farm will be secured by perimeter fencing with access gates. This will be deer fencing with wooden posts at intervals of around 3.5m. The fence will be circa 2.4m high with a gap of circa 0.1m also included at regular intervals to allow small mammals to pass underneath.

Deer fencing has been selected due to its relatively low visual impact and minimal impact on natural surface water flow.

Security fencing diagram



Example of deer fencing



8 CCTV and lighting

CCTV cameras will be installed around the perimeter of the solar farm to enable remote surveillance of the site, using motion-sensored infrared cameras for effective night-time operation without the use of lighting. Cameras will be strategically positioned to ensure they do not breach residents' privacy.

Please note: the solar farm will not be lit up at night.

9 Visual impact & screening

The proposed development has been designed around the existing field boundaries, hedgerows and trees to minimise disturbance to these elements and features. These elements and features will be largely retained and enhanced helping to contain the proposed development across the extent of the application site. The proposed mitigation hedgerow planting along the outer boundaries will increase the level of hedgerow cover.

The newly established hedgerow and density of the proposed site elements will reduce the 'openness' of the site and views of the development.

As part of the planning application, a full landscape and visual impact assessment was carried out. A series of sectional drawings and elevational drawings, showing the site levels, the proposed development relative to existing dwellings and/or structures contiguous to the site were submitted. These drawings demonstrated the limited inward views of the solar farm and it was determined by Fingal County Council that the proposed development would not impact negatively on the visual amenity of the site or the surrounding area

10 Human health

Some residents have expressed concerns about the electric and magnetic fields (EMFs) found near electricity lines and cables. When electric current flows, EMFs are produced but register in the extremely low frequency end of the electro-magnetic spectrum. They occur in the home, in the workplace or anywhere we use electricity. Natural sources of EMFs include the earth's geomagnetic field and electric fields from storm clouds. The consensus from health and regulatory authorities is that extremely low frequency EMFs do not present a health risk.

11 Ecology

Some residents have raised concerns about the removal of hedgerows and trees. The proposed development will result in the loss of only 6.7m of hedgerow and the removal of one tree.

The Gerrardstown Solar Farm Biodiversity Management Plan has been designed to ensure that the site will have a net beneficial effect for local wildlife. This plan includes the following measures:

- Planting of new, species-rich grassland, wildflower meadows and wet wildflower meadows (1,228 m²)
- Bug hotels to provide safe habitat for solitary bees, ladybirds and other insects

In addition, the solar farm will increase the level of hedgerows and field boundaries on the site through infill planting (2,420 m of new hedgerow will be planted)

Due to the nature of the proposed development, construction works/ground disturbance will only occur over approximately 4.11% of the site, with the remainder of the site utilised for agricultural purposes throughout the lifetime of the operation.

12 Use of agricultural land

One of Ireland's Climate Action Targets is to install a total of 8GW of solar PV by the end of the decade. If this target is to be met, it is anticipated that solar farms will require an area of 24,000-26,000 acres across the country. This constitutes approximately 0.2% of Ireland's total agricultural land.

The Gerrardstown site covers 214 acres, which constitutes approximately 0.0015% of Ireland's total agricultural land.

13 Contamination

PV solar panels do not contain harmful chemicals or gases. These panels are comprised mainly of silicon (which originates from sand), aluminium and glass. They are solid state materials and, in the case of panel breakage, there is no danger of "leakage" of fluids or gas.

Solar farms have been established within the UK and Ireland for over 20 years. There is no evidence that the rainwater run-off from solar panels poses a threat to groundwater aquifers. The water will fall as rain and run off the panels, as it would a sheet of glass.

The proposed development would remove the need for any artificial fertilizers and pesticides associated with existing intensive agricultural practices. No pesticides will be used or needed and there will be only very occasional mowing/trimming on the site to maintain internal hedging.

Pollinator-friendly grasses planted beneath the solar panels will create new habitats for bees, birds, insects, small mammals and other wildlife. This ground cover will be low growing and will require little maintenance.

14 Property Value

Devaluation of property has the potential to occur where there is a significant negative impact on the residential amenity of property in the vicinity of a development. Planning officials must assess residential amenity as part their decision-making process. Given the nature of the proposed solar farm, the level of screening and other factors, Energia believes that the solar farm will not result in property devaluation. These factors include:

- The low height of the panels (up to 3.2m) together with the existing and proposed field boundaries which in many cases exceed the height of the panel and limit views of the development
- The minimal traffic associated with the operational phase (15 Light Goods Vehicles per year)
- The minimal noise associated with the operational phase (significantly below the existing baseline)
- The level of biodiversity enhancement measures

15 Solar panels: end of life

Commented [BR15]: @Ni Cheallaigh Doireann @Evistor
Maria I don't think we can say it won't, but rather that we don't believe it will.... Does this re-wording work for you? Please note: web and brochure style uses plain bullet points and no semicolons.

Commented [ND16R15]: @Billingham Rosy this looks good to me :)

Solar modules are governed by the Waste Electrical and Electronic Equipment (WEEE) Directive which requires manufacturers to fund the collection and responsible disposal of end-of-life materials. Panels will be removed from the site by a licensed contractor for the re-use, recycling or waste disposal of all components. Facilities are now available which are dedicated to fully recycling solar panels. Any elements of the solar farm that are not suitable for recycling will be disposed of in an appropriate manner. However, it should be noted that recycling technology and infrastructure is continuing to improve.

16 Energia Renewables and Energia Group

Energia Renewables are part of the wider Energia Group. We are committed to our customers and trusted by thousands of homes and businesses across the island of Ireland to meet their needs in an evolving energy environment.

We are a leading developer and operator of 15 onshore wind farm sites across the island of Ireland, generating over 300MW of green electricity. The Group's ongoing €3bn 'Positive Energy' investment programme is developing onshore and offshore wind, solar, battery storage, bioenergy and green hydrogen production.

It is anticipated that this renewable energy programme will add 1.5 GW of additional renewable capacity to the system by 2030, facilitating the achievement of Climate Action targets.

We pride ourselves on our reputation for being responsible developers and good neighbours in the communities where we operate. To find out more about Energia Group and our renewable energy projects and community benefit funds, visit our website:

www.energiagroup.com.

17 Contact us

For further information, please email our Community Liaison team at clo@energia.ie.

Use the QR code to visit our Fieldstown solar projects and Bogganstown solar farm web page at www.energiagroup.com

