



An
Bord
Pleanála

Inspector's Report ABP-302702-18

Development	10 year permission for a solar farm.
Location	Clonloghan, Caherteige, Co. Clare
Planning Authority	Clare County Council
Planning Authority Reg. Ref.	18585
Applicant(s)	Terra Solar Ltd.,
Type of Application	Permission
Planning Authority Decision	Grant
Type of Appeal	Third Party
Appellant(s)	Paul & Siobhan Kennedy
Observer(s)	Shannon Airport Authority DAC
Date of Site Inspection	12 December 2018
Inspector	Gillian Kane

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1.0 Site Location and Description

- 1.1.1. The subject site is located to the west of the R472, approx. 1.5km north of Shannon Airport. The 19.8ha site is currently in agricultural use and has a single access point from the regional road. On the date of the site visit access to the western most part of the site was not possible due to the presence of grazing animals.
- 1.1.2. A low cut-hedgerow bounds the road to the east. Hedgerows and trees line a number of the field plots within the overall site. A water body, the Liscannor stream runs along the eastern boundary of the site. An electricity transmission line runs along the northern section of the site. The site slopes from north to south with a series of smaller hills and undulations within the field pattern.
- 1.1.3. A single dwelling lies to the north and due to the topography of the area, is widely visible from the subject site. A crash repair facility is located to the east of the subject site, approximately at the proposed entrance. The appellants dwelling to the south is accessed from a private road. Further south, are the industrial lands associated with Shannon Airport.

2.0 Proposed Development

- 2.1. On the 18th July 2018, a ten-year permission was sought for a solar farm consisting of c. 63,000sq.m. of solar panels on ground mounted frames, a single storey substation, 4 no. single storey electrical inverter / transformer stations (total built area 218sq.m.), battery storage module and associated equipment container, security fencing, satellite pole, CCTV, access tracks including an agriculture bridge over the Liscannor Stream for a planned 30 no. years of the solar farm lifetime, all on a site of 19.8ha
- 2.2. The application was accompanied by:
 - Letter of consent from the landowner,
 - Planning and Environmental Statement,
 - Ecological Impact Assessment with AA Screening Report
 - Construction and Environmental Management Plan
 - Landscape and Visual Assessment Report with Photomontage
 - Glint and Glare Study
 - Archaeological, Architectural and Cultural Heritage Impact Assessment,

3.0 **Planning Authority Decision**

3.1. **Decision**

3.1.1. On the 11th September 2018 the Planning Authority issued a notification of their intention to GRANT permission subject to 17 no. conditions. Conditions of note include:

2: ten-year permission

3: permission is not a consent or agreement to connection to national grid

4: 25 years from date of commissioning of arrays and decommissioning / restoration plan required.

5: solar panels shall be fixed in place by driven pile or screw pile only, cables to be underground, stations to be dark green in colour

9: Archaeological monitoring required

3.2. **Planning Authority Reports**

3.2.1. **Road Design:** Sightlines and forward visibility acceptable, junction design and entrance radii are in accordance with TII requirements, gate to be set back to accommodate the largest vehicle using the entrance, traffic management plan to be agreed with area engineer, surface water not to be discharged to road, underground cabling for grid connection to Shannon town must be subject to a Road opening Licence, proposal to screen the R472 from glint and glare.

3.2.2. **Shannon Municipal District:** Given the sensitivity of downstream drainage provisions development must not commence before 1 April 2019 and buffer zones shall be located at the downslope end of each fall, before discharge to drain, surface water or neighbouring property. These shall be 35m of clear grassed area for each 200m of solar array.

3.2.3. **Development Applications Unit:** Possible that subsurface archaeological remains could be encountered during ground disturbance. 4 no. conditions recommended.

3.2.4. **Unsolicited Additional Information** was submitted by the Applicant in an email dated 05 September 2018 addressed to the Executive Planner. The email makes three points, referring to “the interpretation of the 35m reference” being out of context. The email states that the reference is based on a model rather than an actual solar farm, that the academic report demonstrates that where well-maintained grass is underneath panels then there is not much of an effect on volumes of run-off

or peak discharge rate and finally that where the grass is not maintained then a 35m stormwater buffer may need to be introduced. The email states that specific proposals to avoid this possibility have been included.

- 3.2.5. **Planning Report:** Principal of proposed development is acceptable. Proposed development will not adversely affect the landscape or cause traffic concerns. Closest house is sufficiently far away to have no visual impact. Landscape planting will screen. Noise during construction can be controlled by condition. Noise during operation will be minimal. No impacts on ecology, archaeology or cultural heritage. Site is outside Flood Zone A and B and no recorded flood events, no objection on grounds of flood risk. Proposed entrance falls within restricted red zone Shannon Airport but the arrays are outside the zone, so development is in accordance with Shannon Town and Environs Local Area Plan. Notes that glint and glare study finds that solar reflections with a low potential for producing temporary after image are predicted. Notes that neither the IAA or Shannon AA commented on this. Screening will mitigate the possible solar reflection on the R472. Recommendation to grant.

3.3. **Third Party Observations**

- 3.3.1. **Shannon Airport:** Airport Authority requests that the developer be required to instigate appropriate mitigation measures to prevent any adverse effects becoming an issue for air traffic into and out of Shannon Airport.
- 3.3.2. **Irish Aviation Authority:** No observations on the Pager Power Glint and Glare study. If the photovoltaic solar panels pose an unacceptable risk to the safety of aviation activities at Shannon Airport, the application will be required to implement appropriate mitigation measures.
- 3.3.3. **Paul Kennedy:** The grounds of the objection are the same as those raised in the third-party appeal and are discussed in greater detail in section 5 below.

4.0 **Planning History**

- 4.1.1. None on the subject site.

5.0 Policy Context

5.1. National Planning Framework

- 5.1.1. The NPF recognises that rural areas have a strong role to play in securing a sustainable renewable energy supply for the country. The framework notes that the ability to diversify and adapt to new energy technologies is essential. Innovative and novel solutions for renewables have been delivered in rural areas over the last number of years, particularly in the areas of solar, wind and bio mass.
- 5.1.2. **Objective 55** – promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.

5.2. Ireland's Transition to a Low Carbon Energy Future 2015 – 2030

- 5.2.1. The White Paper sets out a framework to guide energy policy between now and 2030. It includes an objective to 'accelerate the development and diversification of renewable energy generation' and increase the country's output of electricity from renewable sources'. It states that this will be achieved through a number of means including wind, solar PV and ocean energy.
- 5.2.2. Section 137 - Solar photovoltaic PV technology is rapidly becoming cost effective for electricity generation, not only compared with other renewables but also compared with conventional forms of generation. The deployment of solar energy in Ireland has the potential to increase energy security, contribute to our renewable energy targets and support economic growth and jobs. Solar also brings a number of benefits like relatively quick construction and a range of deployment options including solar thermal for heat and solar PV for electricity.

5.3. The Regional Planning Guidelines for the Mid-West Region 2010-2022

- 5.3.1. The Guidelines recognise that the region has a key role to play in the attainment of the national renewable energy targets. Section 6.6.1 notes that the region has a substantial renewable energy resource potential, referring to wave and wind power, anaerobic digestion and biofuel-based systems.

5.4. **Clare County Development Plan 2017 -2023**

5.4.1. Paragraph 6.3.17 relates to rural enterprise and **Objective CDP 6.20** states that it is an objective to support rural enterprise and the rural economy.

5.4.2. Paragraph 8.8.6 relates to renewable energy and states that the importance of the development of renewable energy sources as identified in the Government White Paper is recognised.

5.4.3. **Objective CDP8.40** relates to renewable energy and states that it is an objective of the development plan to

(a) Encourage and to favourably consider proposals for renewable energy developments and ancillary facilities in order to meet national, regional and county renewable energy targets and to facilitate a reduction in CO2 emissions and the promotion of a low carbon economy.

(b) To assess future renewable energy related development proposals having regard to the Clare Renewable Energy Strategy 2017-2023.

(h) to promote and market the county as a leader of renewable energy provision,

To support the implementation of 'Ireland's Transition to a low carbon Energy Economy 2015-2030'.

5.4.4. **Objective CDP10.11** relates to renewable energy and states that it is an objective to facilitate the development of renewable energy developments in rural areas in accordance with the adopted Renewable Energy Strategy.

5.5. **Clare Renewable Energy Strategy 2017-2023**

5.5.1. **Chapter 8** of the RES refers to Solar Energy. **Section 8.2.2** outlines the factors influencing preferred locations for installations greater than 50sq.m. Of relevance to the subject proposal are the following:

- Installations should be generally south facing, with an angle of 15-55 degrees. Some installations may have tracking technology with sensors and motors to track the motion of the sun and maximise electricity production;

- Land diversification, where solar farms can be developed on agricultural land, where proposals include the continued agricultural use of the site or incorporate biodiversity measures within the project;
- Sufficient hours of day light (as per SEAI irradiation map of Europe);
- Secure un-shaded site (shadow from buildings, trees and other structures can significantly reduce the performance of PV's).

5.5.2. **Section 8.3** refers to planning issues. Potential constraints to the development of large PV systems may include:

- Normal planning considerations including impact on landscape, urban design, biodiversity, ecological impact, on-site water management, access to grid, security fencing, decommissioning issues and residential amenity including potential glint and glare;
- Requirement for an exclusion zone / restrictions around Shannon Airport, due to potential conflict between aircraft radar systems and large PV tracker technology; also, potential reflection / glare issues;
- The need to have sufficient areas of solar modules to produce the required energy output from the system;
- Functional effectiveness of the solar units in Ireland's climate;
- Shadow from buildings, trees and other structures can significantly reduce performance of PV's

5.5.3. It is the policy of the Council to encourage the use of solar energy for generating the electricity/heating needs of buildings and infrastructure such as street lighting and road signage, in accordance with the principles of proper planning and sustainable development. The Council will generally support proposals for appropriately designed thermal solar and PV systems other than in circumstances where visual impact is critically damaging to a Recorded Monument, Protected Structure or an Architectural Conservation Area, has the potential to impact negatively on the amenity (including residential) of the area or adversely affect a protected species and/or its habitat

5.5.4. **Policy RES 8.2** states that it is an objective of Clare County Council:

- To favourably consider the redevelopment of brown field sites in predominantly industrial / commercial areas for large solar PV projects subject to normal planning considerations and appropriate environmental considerations;
- To favourably consider the development of solar farms on agricultural lands which allow for farm diversification and multipurpose land use, subject to normal planning considerations. All such applications should be accompanied by an environmental report addressing issues such as ecological impacts, impacts on the amenity of adjoining properties, glint/glare, landscape impact assessment, cable trenching, sustainable drainage systems for the management of surface water disposal on site, decommissioning and site restoration;
- To require the preparation and assessment of all planning applications relating to solar energy in the plan area to have regard to the information, data and requirements of the Natura Impact Report, SEA Environmental Report and Strategic Flood Risk Assessment Report contained in Volume 10 of the Clare County Development Plan 2017-2023;
- To require projects to be fully informed by ecological and environmental constraints at the earliest stage of project planning and any necessary assessment to be undertaken, including assessments of disturbance to species, where required;
- To require compliance with the objectives and requirements of the Habitats Directive, the Bird Directive, Water Framework Directive, all other relevant EU Directives and all relevant transposing legislation.

5.6. Natural Heritage Designations

- 5.6.1. The nearest sites designated under the Habitats Directive are the River Shannon and River Fergus Estuaries SPA and the River Shannon SAC which are located approx. 2.4km from the appeal site.

6.0 The Appeal

6.1. Grounds of Appeal

- 6.1.1. An agent for Paul & Siobhan Kennedy of Caherteighe, Shannon has lodged a third-party appeal of the Planning Authority's decision to grant permission. The appeal is

accompanied by a number of aerial photos showing the location of the appellants home to the south of the subject site. The grounds of the appeal can be summarised as follows:

- It is clear the appellants house will be directly affected by the proposed development.
- The Planning Authority did not correctly assess the visual impacts on the Kennedy home – the whole ground floor is directed towards the site of the development. This was chosen as it is shaded from planes using the airport.
- The Kennedy's site was carefully chosen, not realising a solar farm would be 360m from the rear of their house.
- Aerial photos show that the subject development will be visible from the Kennedy property.
- The applicant's photomontages did not include a view in the direction of the appellants house.
- It appears that the Planning Authority did not consider the impact of this view. The planning report stated that at a distance of 900m from the proposed development there would be minimal or zero impact. It is submitted that at the correct distance of 360m the impact must be considered to be greater.
- The visual impact, the effect of glint, glare and reflection will have a significant effect if the proposed development cannot be screened.
- The applicants glint study submits that the appellants dwelling will not be affected by glint. It is submitted however that the panel angles and the suns rotational angles are such that late evening and early morning sun will create glint and glare that will affect the appellants property.
- On the 6th of June the sun will reflect off the panels towards the appellants house between 06.20 and 07.30 and between 17.30 and 19.00. Without information it is difficult to predict the reflection patterns.
- The appellants property will be as affected by this as it is by the planes passing within 200m clear view of the house. The appellants built their house in the

knowledge of the planes impact – which is similar to a passing car and leaves the view unspoiled.

- Aerial photos show that the proposed development will be very obvious from the rear of the appellants house.
- The appellants are in favour of progress but not when it seriously affects their view and their property.
- It is suggested that the development can be ameliorated by a landscaping scheme notwithstanding that it will impact a view they currently enjoy.
- It is submitted that the development plan has been misinterpreted, that the development has been justified by reference to policies that have no relevance (agriculture development and rural enterprises).
- The development plan requirement for an exclusion zone around Shannon Airport is not mentioned in the planner's report, nor are reflection or glare issues.
- A condition requiring mitigation of a risk to aviation is attached but nothing regarding glare or glint impacts on the appellants property.
- The planning report incorrectly measured the distance between the two sites as 900m and that the proposed development would have no visual impact. It is submitted that this is not correct.
- The appellants request that the proposed development be moved back by 100m and that the vacated area be planted in mature deciduous and coniferous trees. These must be allowed to mature for at least two years before development is allowed to commence.
- It is requested that one field which cannot be screened (marked on photo) be restricted from development.
- The developer's proposal to remove hedgerows was not shown on any drawings, nor the impact of their removal assessed.
- It is noted that the applicants own other lands that could be developed – with much less impact on the appellants.

- The impact of an industrial zone or a domestic development would have required a comprehensive landscaping plan. It is submitted that condition no. 10 ensures that the appellants property will be screened from the development.
- The appellants understand the need to develop but suggest that it must be done with minimal impact on the existing communities.
- It is submitted that unless solar farms are correctly mitigated, then the impact on the environment will be at the expense of the landscape.
- The subject location is good if it is landscaped properly.
- The Board is requested to request a detailed landscaping plan with timeline planting and tree height development relative to the appellants property in order to mitigate against visual impacts and reduce glint and glare on the appellants property.

6.2. Applicant Response

- The appellants claim that the proposed solar farm is 360m from their home, however mapping shows it to be 440m. The appellants claim that the Planning Authority miscalculated the distance as 900m is not supported by the planning report.
- It is submitted that the appellants photographs are not accurate, giving the impression that the subject development is closer than proposed. The closest point of the proposed solar farm is 360m from the appellants dwelling, the fields indicated by the appellant are 400m from the dwelling and the electricity pole visible in the photos is 700m from the appellants dwelling. The photos appear to be taken from upper windows where the amenity value is less. Notwithstanding this, it is submitted that the appellants photos indicate the extent of existing natural screening and landscape breaks. These hedgerows will be bolstered to a height of 4-5m and trees of 8-10m. There will be no visibility from the ground floor. It is submitted that the appellant has overestimated the impact of the proposed development.
- The appellants acknowledge that their house is within a working landscape. It is submitted that the noise impact from the airport is far greater than the potential distant views of a static solar array.

- It is submitted that visibility is not always a negative impact. The subject site is located in a “settled” “working” landscape which is robust in nature and capable of accommodating the proposed development. Section 13.3.2.1 of the development plan refers. The proposed solar farm is consistent with the landscape typology and policy objectives for the area.
- The appellants suggestion that the Planning Report misinterpreted the development plan is rejected. The proposed development is supported by the Clare Renewable Energy Strategy and policy CDP6.19, CDP 6.20, CDP6.17CDP10.11, CDP18.1 and CDP18.3 of the Clare Development Plan.
- The Planning report considered the requirement for an exclusion zone around the Airport. The proposed development does not include any PV tracker software as referenced in section 8.6 of the Clare Renewable Energy Strategy.
- The applicant has engaged with Shannon Airport and the Irish Aviation Authority. Photos were taken from the air traffic control tower (ATCT). The technical modelling outputs for the glint and glare assessment were presented to the IAA. No adverse impacts on Shannon Airport were identified.
- The applicant’s glint and glare study was undertaken by respected industry specialists. Their detailed glint and glare study scientifically predicts with technical accuracy, the extent and duration of any likely instances of glint or glare on identified receptors. The appellants query of the findings is not supported by evidence. The determination of reflective impacts is three dimensional, taking account of the earth’s orbit around the sun, the earth’s rotation, the earths orientation, the location of the reflectors and their orientation. Generally, dwellings due east and west of the panels are most likely to view a solar reflection. It has been objectively determined that solar reflection at the appellants property is not geometrically possible.
- The appellants request that panels be omitted from one field is not justified. This suggestion ignores the fact that the design team considered the full extent of the land holdings. The proposed configuration is the optimal solution.
- Regarding the appellants query about hedgerow removal, it is stated that 22m will be removed on site and 173m at the roadside. This will be offset by 500m of hedgerow planting and infilling of gaps.

- The Board is requested to grant permission.

6.3. **Planning Authority Response**

- 6.3.1. The planners report of 11th September refers to the distance between the appellants home and the subject site and that the upper floor of the dwelling would have visibility of the subject site. Site photos and site visit demonstrated that ground level accommodation is not visible from the subject site. Aerial photography submitted by the appellant shows the rear building line of his dwelling as 440m from the subject site. It is acknowledged that screening will take a number of years to become fully effective however the separation distance, the vegetation and the landscape master plan mean that the proposed development will not have an adverse impact on residential amenity. The Board is requested to uphold the Planning Authority's decision to grant permission.

6.4. **Observation**

6.4.1. **Shannon Airport Authority DAC**

- Shannon Airport Authority made known their concerns to Clare County Council on 16th August. The concerns related to the potential effects of glint and glare on pilots approaching and taking off from the main runway at Shannon.
- The SAA comment to the Planning Authority stated that they had no material observations to make on the subject application. However, in the event that permission was granted and that adverse effects became apparent during the lifetime of the solar farm, the developer would be required to instigate mitigation measures to prevent these adverse effects becoming an issue for air traffic at the Airport.
- Despite the Planners report stating that it considered all observations, it is noted that the Planning Authority's decision did not include such a condition.
- The Safety Regulation division of the IAA also required that the applicant be conditioned to mitigate against any adverse impacts to aviation
- Options for mitigation in the event of adverse effects (glare and glint) can include but are not limited to: additional screening at the site, orientation of azimuth angle

(NSEW orientation), adjustment of the vertical tilt of the solar panel and changing the site footprint. The Board is requested to implement some or all of the above.

7.0 **Assessment**

7.1.1. I have examined the file, considered national and local policies and guidance and inspected the site. I am satisfied that the issues raised adequately identify the key potential impacts and I will address each in turn as follows:

- Principle of development
- Landscape and Visual Amenity
- Glint and Glare
- Air Traffic Safety
- Appropriate Assessment
- Environmental Impact Assessment

7.2. **Principle of Development**

7.2.1. The proposed development is supported by national, regional and local policies in terms of renewable energy. Objective 55 of the National Planning Framework seeks to promote renewable energy and generation at appropriate locations within the built and natural environment, whilst paragraph 130 of 'Transition to a Low Carbon Energy Future 2015-2030 - White paper on Energy policy' recognises that solar energy will become more cost effective as technology matures and that it will be an integral part of the mix of renewables going forward. At a regional level it is an objective of the South West Regional Planning Guidelines to facilitate the sustainable development of additional electricity generation capacity throughout the region and to support the sustainable expansion of the network.

7.2.2. At a County level, the Clare County Development Plan has policy CDP 10.11 which states that it is an objective of the development plan to facilitate the development of renewable energy developments in rural areas in accordance with the Clare Renewable Energy Strategy. Section 8.2.2 of the RES outlines the factors influencing preferred locations for installations greater than 50sq.m. The proposed development complies with these factors being: south facing, on agricultural land that can be used for agriculture use and in a secure un-shaded site. Section 8.3 of the RES requires the consideration of normal planning issues such as impact on

landscape, urban design, biodiversity, ecological impact, on-site water management, access to grid, security fencing, decommissioning issues and residential amenity including potential glint and glare and the requirement for an exclusion zone / restrictions around Shannon Airport, due to potential conflict between aircraft radar systems and large PV tracker technology; also potential reflection / glare issues. These are addressed in section 7.5 below.

- 7.2.3. The appellants state that they do not object to the principle of the proposed development, only the impact on their dwelling. It is considered that the proposed development is in accordance with national regional and local policy and is acceptable subject to other planning considerations.

7.3. Landscape and Visual Amenity

- 7.3.1. The subject site is located in a Settled Landscape and Western Corridor Working landscape. Objective CDP13.3 states that within such areas it is an objective of the development plan to permit development that will sustain economic activity and enhance social well-being and quality of life. Visual impact must be minimised in such areas.
- 7.3.2. The applicant submitted a Landscape and Visual Assessment report and photomontage booklet. The report states that the subject site lies in the Sixmilebridge Farmland Landscape character assessment area with sections in the River Valley Farmland LCA and the Built-Up LCA. The condition of the Sixmilebridge LCA is described as a well-maintained landscape with good land and intact hedgerows. In terms of living landscapes, the site falls into both the settled and western corridor working landscape.
- 7.3.3. The subject site is considered to have medium to medium-high level sensitivity to visual change. In terms of the view from the adjoining R472 (photomontages 1 and 2), some visibility will be experienced before the proposed landscape planting reduces the visual impact. The significance of the visual effect is determined to be moderate in the short term and minor in the medium to long term. All other views are determined to be negligible or none.
- 7.3.4. Section 7.2 of the LVA notes that there will be short term visibility of a very small part of some of the northern part of the solar farm that are not screened by garden vegetation from the dwellings on Stonehall Road but that this will reduce as

mitigation planting matures in the medium term. The appellant criticised the LVA on the grounds that it did not include the view from his dwelling. In their response to the appeal, the applicants agent note that the applicants built their dwelling in a working landscape and that the separation distance and proposed planting is such that no adverse visual impacts will occur.

- 7.3.5. The rear of the appellants property currently looks out on to green fields in pasture or in agricultural use. The appellant notes that nor he nor his wife wish to obstruct development but that seek to avoid any impact on their residential amenity. The introduction of a new visual element, particularly one as new and uncommon as solar panel arrays into a formerly green natural landscape is understandably unwelcome to some. The impact of the proposed development may be considered by the applicant to be minor and short term, to the appellant however it is an irreversible impact that is yet unknown. Scientific findings of no glint and glare or no visual impact can often do little to ameliorate perception of change. On balance, however, it is considered that the separation distance, the proposed landscaping plan and the existing natural topography and vegetation on site are such that there will be no seriously adverse visual impact from the rear of the appellants property.

7.4. Glint and Glare

- 7.4.1. The appellant states that the impact of glint and glare from the proposed solar arrays was not properly considered by the Planning Authority, that the panel angles and the suns rotational angles will impact their property in early morning and late evening. The appellant states that it is difficult to predict reflection patterns.
- 7.4.2. In response the applicant refers to the scientific methodology behind the Glint and Glare study undertaken for the proposed development. The study, submitted with the application, provides details on the proposed development including mounting arrangements and orientation and identifies sensitive receptors such as Shannon Airport, the adjoining public road and surrounding dwellings.
- 7.4.3. Section 5.3 of the report identifies all dwellings within 1km of the proposed solar farm. In terms of the appellant's dwelling, figure 7 shows the appellants property as identified receptor no. 20. The report notes that the geometry of the relationship between the solar panels and the movement of the sun means that dwellings to the north and south of the panels are very unlikely to experience a solar reflection. Table

10 of the study analyses the theoretical possibility of reflection on the identified dwellings. The appellants dwelling, no. 20, is determined to have “no solar reflection geometrically possible”. Analysing the results, section 8.3 notes that while dwelling no. 20 (the appellants property) has a view of the proposed development, that no solar reflection is possible due south.

- 7.4.4. I am satisfied that the issue of glint and glare has been adequately assessed and that the finding of no impact on the appellants property is reasonable.

7.5. Air Traffic Safety

- 7.5.1. Shannon Airport Authority commented on the application to the Planning Authority and made a submission to the Board. The concerns related to the potential effects of glint and glare on pilots approaching and taking off from the main runway at Shannon. Section 8.4 of the Glint and Glare study referring to the study on the airport finds that the level of glare predicted on the ATC tower, runway 06 approach path, runway 24 approach path and the visual manoeuvring area is considered acceptable. The SAA requested that a condition be attached to any grant of permission requiring that should adverse effects became apparent during the lifetime of the solar farm; the developer would be required to instigate mitigation measures to prevent these adverse effects becoming an issue for air traffic at the Airport. Options for mitigation in the event of adverse effects noted by the SAA included additional screening at the site, orientation of azimuth angle (NSEW orientation), adjustment of the vertical tilt of the solar panel and changing the site footprint. Should the Board decide to grant permission, such a condition is recommended.
- 7.5.2. The appellant submitted that the requirement for an exclusion zone around Shannon Airport was not considered by the Planning Authority. The appellant responded, noting that the subject development does not propose any PV tracking systems. The Board will note that section 8.3 of the Renewable Energy Strategy which requires the consideration of an exclusion zone around the airport refers to large PV systems, not tracking systems. Nonetheless the submission of SAA is noted. They do not object to the proposed development nor do they request an exclusion zone. I am satisfied that the proposed development would not have an adverse impact on air traffic safety and is acceptable in this regard.

7.6. **Appropriate Assessment**

- 7.6.1. The site is not part of or located within a European Site but is located approx. 2.5km from the Lower River Shannon SAC (002165) and the River Shannon and River Fergus Estuaries SPA (004077). The application was accompanied by an Ecological Impact Assessment and Screening Assessment. The conclusion of the screening report is that the development would not be likely to give rise to significant effects on a European Site having regard to the conservation objectives.
- 7.6.2. The Liscannor stream that runs in a north-south direction along the eastern boundary of the site is a tributary of the Urlan Beg river which ultimately discharges into the Shannon Estuary. This is a direct hydrological link between the subject site and the designated site. The proposed development involves the construction of a 'dry' bridge over the Liscannor stream. The proposed construction of the bridge is set out in section 2.2 and Appendix A of the Drainage Assessment and Strategy report.
- 7.6.3. The site-specific conservation objectives for the **Lower River Shannon SAC** (002165) are to maintain or restore to favourable conservation status the following species and habitats which are features of interest for the site.
- Sandbanks which are slightly covered by sea water all the time
 - Estuaries
 - Mudflats and sandflats not covered by seawater at low tide
 - Coastal lagoons
 - Large shallow inlets and bays
 - Reefs
 - Perennial vegetation of stony banks
 - Vegetated sea cliffs of the Atlantic and Baltic coasts
 - Salicornia and other annuals colonising mud and sand
 - Atlantic salt meadows (*Glauco-Puccinellietalia maritima*)
 - Mediterranean salt meadows (*Juncetalia maritimi*)
 - Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation
 - *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)

- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, *Alnion incanae*, *Salicion albae*)
- *Margaritifera margaritifera* (Freshwater Pearl Mussel)
- *Petromyzon marinus* (Sea Lamprey)
- *Lampetra planeri* (Brook Lamprey)
- *Lampetra fluviatilis* (River Lamprey)
- *Salmo salar* (Salmon)
- *Tursiops truncatus* (Common Bottlenose Dolphin)
- *Lutra lutra* (Otter)

7.6.4. The site-specific conservation objectives for the **River Shannon and River Fergus Estuaries SPA** (004077) are to maintain or restore to favourable conservation status the following species and habitats which are features of interest for the site

- Cormorant (*Phalacrocorax carbo*)
- Whooper Swan (*Cygnus cygnus*)
- Light-bellied Brent Goose (*Branta bernicla hrota*)
- Shelduck (*Tadorna tadorna*)
- Wigeon (*Anas penelope*)
- Teal (*Anas crecca*)
- Pintail (*Anas acuta*)
- Shoveler (*Anas clypeata*)
- Scaup (*Aythya marila*)
- Ringed Plover (*Charadrius hiaticula*)
- Golden Plover (*Pluvialis apricaria*)
- Grey Plover (*Pluvialis squatarola*)
- Lapwing (*Vanellus vanellus*)
- Knot (*Calidris canutus*)
- Dunlin (*Calidris alpina*)
- Black-tailed Godwit (*Limosa limosa*)
- Bar-tailed Godwit (*Limosa lapponica*)
- Curlew (*Numenius arquata*)
- Redshank (*Tringa totanus*)
- Greenshank (*Tringa nebularia*)

- Black-headed Gull (*Chroicocephalus ridibundus*)
- Wetland and Waterbirds

7.6.5. With regard to potential effects on the two most relevant European sites arising from the proposed development, there are limited works proposed in terms of construction that could potentially impact on groundwater and the main areas of potential impact site relate to potential surface water contamination and the potential impact that the development might have on species and habitats which are qualifying interests for the site. Mitigation during construction and design in the form of set back from on-site ditches or watercourses and the Liscannor stream and the use of best practice construction methods as set out in the application documentation are accepted as best practice and as such that they can be considered to form an intrinsic part of the development. The implementation of these measures together with the separation distance between the appeal site and the Natura 2000 site is such that there would not be any significant pollution impacts arising and no impact on water quality that would impact on the conservation objectives for the site.

7.6.6. It is not considered therefore that the proposed development is likely to have significant effects on the Lower River Shannon SAC or the River Shannon and River Fergus Estuaries SPA site in the light of the conservation objectives of the sites.

7.7. Environmental Impact Assessment

7.7.1. The applicant submitted a Planning and Environmental Statement with the subject application. Section 4.7 refers to EIA screening. The report states that solar farms do not come within any of the energy classes contained within schedule 5 of the 2001 Regulations. I concur with this finding that there is no mandatory requirement for the submission of an EIS for this form of development.

7.7.2. With regard to sub threshold development under s.109, the assessment undertaken by the Planning Authority concludes that Environmental Impact Assessment is not required. The report notes that this mirrors previous decisions by the Board and by Clare County Council.

7.7.3. On the basis of a review of the classes of development set out at Part 1 and Part 2 of the Fifth Schedule of the Planning and Development Regulations, 2001 (as amended), I do not consider that the proposed development is of a type that is listed

in Part 1 or Part 2 ‘subthreshold development’ for the purposes of EIA. I do not therefore consider that it is required to continue to assess the development in the context of the criteria set out in Schedule 7 of the Regulations relating to sub threshold development. In conclusion, it is my opinion that the proposed development does not fall within Part 1 or Part 2 of the Fifth Schedule of the Planning and Development Regulations, 2001 (as amended). I am satisfied that EIA is not required as the development is of a type which is not listed in the regulations and which therefore does not trigger a requirement for EIA.

8.0 Recommendation

8.1. I recommend that the decision of the planning authority to grant permission be upheld for the reasons and considerations below and subject to the attached conditions.

9.0 Reasons and Considerations

Having regard to the provisions of the current development plan for the area and to the regional and national policy, it is considered that, subject to compliance with the conditions set out below, the proposed construction of a solar farm would not seriously injure the visual or residential amenities of the area, or the ecology of the area. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

In reaching its decision, the Board noted and concurred with the Inspector’s view that the Environmental Impact Assessment was not required in respect of this development, and that the development would not be likely to have a significant impact on the environment. The Board also noted the Inspector’s analysis under the heading of Appropriate Assessment, and agreed with the Inspector that, having regard to the separation distance between the subject site and the nearest European sites – the River Shannon and River Fergus Estuaries SPA (site code 004077) and the Lower River Shannon SAC (site code 002165) - the development, by itself or in combination with other plans or projects, would not be likely to have a significant effect on these European sites, in view of the site’s conservation objectives. The Board, therefore, adopted the Inspector’s conclusions in relation to these two matters.

CONDITIONS

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

Reason: In the interest of clarity.

2. The period during which the development hereby permitted may be carried out shall be a maximum of 10 years from the final grant of planning permission.

Reason: In the interests of clarity.

3. The developer shall liaise with Shannon Airport Authority on a yearly basis regarding the impact of the solar farm on operations at the Airport. Should any adverse effects be reported by the Airport Authority or the Irish Aviation Authority, the developer will be required to implement mitigation measures as required by the Airport Authority. Such measures can include but will not be limited to additional screening at the site, orientation of azimuth angle (North, South, East, West orientation), adjustment of the vertical tilt of the solar panel and changing the site footprint. Where such measures require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

Reason: In the interest of traffic safety.

4. All structures including foundations hereby authorised shall be removed not later than 30 years from the date of commissioning of the development, and the site reinstated unless planning permission has been granted for their retention for a further period prior to that date. Prior to commencement of development, a detailed restoration plan, providing for the removal of the solar arrays, including all foundations, anchors, fencing and all lighting and CCTV poles and site

access to a specific timescale, shall be submitted to, and agreed in writing with, the planning authority. On full or partial decommissioning of the solar farm, or if the solar farm ceases operation for a period of more than one year, the solar arrays, including foundations / anchors, and all associated equipment, shall be dismantled and removed permanently from the site. The site shall be restored in accordance with this plan and all decommissioned structures shall be removed within three months of decommissioning.

Reason: To enable the planning authority to review the operation of the solar farm over the stated time period, having regard to the circumstances then prevailing, and in the interest of orderly development.

5. (a) The landscaping proposals shall be carried out within the first planting season following commencement of construction of the solar PV array. All existing hedgerows (except at the proposed new entrance) and that indicated as being necessary for removal on drawing no. 1802_01RevB shall be retained. The landscaping and screening shall be maintained at regular intervals. Any trees or shrubs planted in accordance with this condition which are removed, die, become seriously damaged or diseased within two years of planting shall be replaced by trees or shrubs of similar size and species to those originally required to be planted.

(b) Additional screening and/or planting shall be provided so as to ensure that there is no glint impact on adjoining houses as a result of the development. Upon commissioning of the development and for a period of two years following first operation, the developer/operator shall provide detailed glint surveys on an annual basis to the planning authority in order to confirm that no such glint impact has taken place, and shall provide such further mitigation measures, as the planning authority may specify in writing, to ensure that this is achieved.

Reason: To assist in screening the proposed development from view and to blend it into its surroundings in the interest of visual amenity, and to mitigate any glint impact from the proposed development upon adjoining residential amenities.

6. The solar panels shall be fixed in place by way of driven pile or screw pile foundations only, unless otherwise authorised by a separate grant of planning permission.

Reason: In the interest of the long-term viability of this agricultural land, and in order to minimise impacts on drainage patterns and surface water quality.

7. CCTV cameras shall be fixed and angled to face into the site and shall not be directed towards adjoining property or the public road.

Reason: In the interest of residential amenity and traffic safety.

8. The construction of the development shall be managed in accordance with a Construction Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall provide details of intended construction practice for the development, including access arrangements, times of deliveries to the site, noise management measures and off-site disposal of construction waste. The plan shall also include a construction method statement to ensure the avoidance of impacts on badgers.

Reason: In the interests of public safety, protection of ecology and residential amenity.

9. Site development and building works shall be carried out only between the hours of 0800 to 1900 Mondays to Fridays inclusive, between 0800 to 1400 hours on Saturdays and not at all on Sundays and public holidays. Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from the planning authority.

Reason: In order to safeguard the residential amenities of property in the vicinity.

10. All cables associated with the development shall be located underground. Prior to the commencement of development, details of the external finishes of the electricity substation and the power inverter units, and of all fencing, shall be submitted for the written agreement of the planning authority.

Reason: In the interest of visual amenity.

11. Water supply and drainage arrangements, including the disposal of surface water, shall comply with the requirements of the planning authority for such works and services. Surface water from the site shall not be permitted to drain onto the adjoining public road.

Reason: In the interests of traffic safety and orderly development.

12. This permission shall not be construed as any form of consent or agreement to a connection to the national grid or to the routing or nature of any such connection.

Reason: In the interest of clarity.

13. The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. In this regard, the developer shall -

- (a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development,
- (b) employ a suitably-qualified archaeologist who shall monitor all site investigations and other excavation works, and
- (c) provide arrangements, acceptable to the planning authority, for the recording and for the removal of any archaeological material which the authority considers appropriate to remove.

In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the site and to secure the preservation and protection of any remains that may exist within the site.

14. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority to the value of €10,000 (ten thousand euro), to secure the satisfactory reinstatement of public roads in the vicinity of the site coupled with an agreement empowering the planning authority to apply such security or part thereof to such reinstatement.

Reason: To ensure satisfactory reinstatement of public roads in the vicinity of the site on completion of the proposed development.

15. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the satisfactory reinstatement of the site upon cessation of the project coupled with an agreement empowering the planning authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure satisfactory reinstatement of the site.

16. The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the

Scheme at the time of payment. The application of any indexation required by this condition shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Bord Pleanála to determine.

Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

Gillian Kane
Senior Planning Inspector

21 December 2018