



An  
Bord  
Pleanála

## Inspector's Report ABP-300004-17.

### Development

Development consisting of a 10-year permission for the construction of a Solar PV Energy development within a total site area of up to 62.8 hectares, to include one single-storey electrical substation building and associated compound electrical transformer/inverter station modules, solar PV panels ground mounted on steel support structures, access roads, fencing and associated electrical cabling, ducting and ancillary infrastructure.

### Location

Ballyard, Ballyhane & Clashnagoneen, Cappoquin, Co Waterford.

### Planning Authority

Waterford City and County Council.

### Planning Authority Reg. Ref.

17/564.

### Applicant

Highfield Solar Limited.

### Type of Application

Permission.

### Planning Authority Decision

Refusal of permission.

<b>Type of Appeal</b>	First Party
<b>Appellant</b>	Highfield Solar Limited.
<b>Observer(s)</b>	None.
<b>Date of Site Inspection</b>	12 <sup>th</sup> July 2018.
<b>Inspector</b>	Derek Daly.

## 1.0 Site Location and Description

- 1.1. The appeal site is located in the townlands of Ballyard, Ballyhane & Clashnagoneen in a rural area approximately 5 kilometres east of the village of Cappoquin in the west of County Waterford. The site is to the north of the N72 Cappoquin Dungarvan National Secondary Route but does not have frontage onto this route. The appeal site which has a total site area of up to 62.8 hectares is currently agricultural land which has frontage onto a local road in the northern section of the site and access from another local road in the western area of the site.
- 1.2. The overall area is characterised by agricultural field with mature trees and hedgerows forming the field and road side boundaries. There is a low level residential development in the area characterised by single dwellings fronting the road network. There are also a number of small enterprises in the area.
- 1.3. In general terms the landscape rises in a northerly direction but is undulating with a number of minor ridges crossing the site from west to east.

## 2.0 Proposed Development

- 2.1. The development as received by the planning authority on the 4<sup>th</sup> of August 2017 was for the construction of a Solar PV Energy development within a total site area of up to 62.8ha. the development includes
  - one single-storey electrical substation building 4.2 metres in height with a stated 83.16m<sup>2</sup> in area and associated compound located in the southern area of the site.
  - Up to 31 electrical transformer/inverter station modules,
  - solar PV panels ground mounted on steel support structures,
  - approximately 1,850 metres of internal trackways access roads,
  - security fencing approximately 2m in height around the perimeter of the site,
  - 3 temporary storage compounds,
  - 2 site accesses from local roads,

- associated electrical cabling and ducting and
- ancillary infrastructure

The associated documentation indicates that the solar array will be made up of individual PV solar modules of approximately 1.7 metres by 1 metre, arranged on a galvanised metal frame mounted structure having a maximum height of 3.2 metres with precise arrangement of panels to be determined and which will be installed by either earth screws or piling.

2.2. In addition to the drawings the application was accompanied by other documentation which included;

- An overview report in relation to the proposed development with a number of appendices which included;
- An Appropriate Assessment Stage 1 screening report and ecological impact assessment (Appendix 1).
- A solar resource map (Appendix 3).
- A landscape and visual impact assessment and a glint and glare technical note (Appendix 4).
- An archaeological assessment (Appendix 5).
- A flood risk assessment (Appendix 7).
- A traffic management plan (Appendix 9).

2.3. The applicant requests a 10-year permission.

## 3.0 **Planning Authority Decision**

### 3.1. **Decision**

The planning authority decision was to refuse permission. Three reasons were stated.

The first reason refers to the scale of the development, that would represent an unduly obtrusive feature in the landscape and impact on the rural character of the

area and would be premature pending the adoption of national regional and local guidance or strategy for solar power.

The second reason refers to glint and glare and potential impact on the road network and local residents.

The third reason for refusal refers to issues of flood risk arising from the development and that it has not been demonstrated that as the justification test has not been passed that the development would not exacerbate the risk of flooding within the site or increase the risk and consequences of flooding elsewhere.

### **3.2. Planning Authority Reports**

#### **3.2.1. Planning Reports**

The planning report dated the 26<sup>th</sup> of September 2017 refers to

- The planning history in particular in relation to solar farm developments in the county.
- That an EIS is not required.
- An assessment of the development referring to the principle of the development in the context of national, regional and local planning policy and that although there is an acknowledgement of national objectives in relation to renewable energy there is an absence of clear policy direction in relation to individual proposals.
- There development is considered significant in terms of scale.
- The development would remove productive agricultural land and by virtue of its scale would not be readily absorbed into the landscape notwithstanding the absence of a sensitivity designation for the site and area.
- Reference is made to potential glint and glare arising from the development.
- Reference is made to potential flood risk and an evaluation of the flood risk study and that the site has not passed the justification test.
- Issues arise in relation to impacts on the road network.
- Refusal was recommended.

3.2.2. The area roads report refers to the submission of Transport Infrastructure Ireland and that consideration should be given to access from the R671 rather than the local road, to sightlines at the junction; a traffic management plan and if using the local road, a contribution towards its upgrading and improvement.

3.2.3. The heritage office in a report dated the 25<sup>th</sup> of September 2017 indicates no objections to the development.

### 3.3. **Submissions from Statutory Bodies.**

3.3.1. Transport Infrastructure Ireland in a submission dated the 23<sup>rd</sup> of August 2017 refers to national policy in relation to development involving access to national roads and the proposed development if permitted would create an adverse impact on the national road.

### 3.4. **Third Party Observations**

Submissions were received from local residents outlining issues in relation to the issue of loss of amenity and impact on residential amenities.

## 4.0 **Planning History**

There is no planning history for the site.

A significant number of solar farms have come to the Board on appeal within the past number of years in County Waterford and other counties.

The planning report of the planning authority refers to the large number of applications made in the county in relation to solar farm development.

## 5.0 **Policy Context**

### 5.1. **EU Guidance**

### 5.2. **European Policy Context**

5.2.1. The EU has through a series of policy framework and directives outlined an approach to reduce greenhouse gas emissions, the Europe 2020 Climate and Energy Framework and Europe 2030 Climate and Energy Framework to reduce

greenhouse gas emissions by 40% from 1990 levels with increasingly the use of renewable energy as a source of energy and also for greater efficiency in the production of energy.

5.2.2. In addition, Directive 2009/28/EU the Renewable Energy Directive promoted the increased use of renewable energy and increased targets for the overall level of energy produced and consumed by member states from renewable energy sources; the adoption of greater efficiency in energy production; the preparation of national plans and for the use of energy storage systems for integrated intermittent production of energy from renewable sources.

5.3. The Energy Roadmap 2050 published in 2011 continues the overall policy direction of previous policy frameworks and guidance on how to attain targets and objectives up to 2050 with continued adherence to energy efficiency; the use of renewable energy and advancing technologies and capacity.

#### 5.4. **National Guidance.**

5.4.1. In relation to energy arising from the EU Directive national policy has focussed measures to achieve the targets set out in the European policy framework.

5.4.2. The National Renewable Energy Plan published in 2010 is an action plan indicating how the targets would be achieved. Ongoing progress plans have been produced in 2012, 2014 and 2016 on progress in meeting targets in relation to renewable energy and efficiencies in energy.

5.4.3. Strategy for Renewable Energy 2012 published by Department of Communications, Climate Action and Environment outlines a policies and strategies for the developing of increased renewable energy production to meet targets in relation to renewable energy including the development of cost efficient systems of energy production and the development of commercial large-scale electricity storage which arises from the need to store renewable energy which may generate energy at periods when there are not peak demands for energy.

5.4.4. Ireland's Transition to a Low Carbon Energy Future 2015-2030 is a White Paper published by the Department of Communications, Climate Action and Environment in December 2015 as a framework to guide policy and the actions that the Irish Government intends to take in the energy sector from now up to 2030 and takes into account European and International climate change objectives and agreements, as

well as Irish social, economic and employment priorities as part of a progression towards a low carbon energy system.

The White Paper considers the increasing transition from fossil based fuels to greater use of Renewable Electricity (RES-E) and the need to develop back up technologies in order to ensure that stability of supply is maintained.

Paragraph 130 of the White Paper 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.

5.4.5. **Planning Policy.**

5.4.6. There is no specific planning guidance in relation to solar energy projects.

5.4.7. **Planning and Development Guidance Recommendation for Utility Scale Solar Photovoltaic Schemes in Ireland October 2016.**

5.4.8. This is a research paper prepared by Future Analytics Consulting and which was funded by the SEAI. It does not purport to be a policy document. The report contains a set of planning policy and development guidance recommendations, which it is suggested may contribute to the evidence base that will inform the development of Section 28 planning guidance for Utility Scale Solar Photovoltaic (USSPV) development in Ireland.

5.4.9. It notes that over a hundred applications for USSPV developments have been lodged with planning authorities by October 2016.

5.4.10. Recommendations in the research paper include

- That development plans set out policy objectives to support USSPV development and put in place development management standards to control development.
- With respect to glint and glare assessments, it is recommended that a national standard for the undertaking of these assessments is developed.
- In relation to siting it is recommended that the development of USSPV should not be prohibited in undulating landscapes.



- That a decommissioning statement should be included as a standard component of a planning application.

5.4.11. It is noted that four out of the seven developments refused planning permission (October 2016) have had glint and glare concerns cited as a ground for refusal. The sensitive receptors are loosely categorised as being: Residential dwellings, Historical Monument/Heritage Landscapes and Road Networks.

5.4.12. Future Analytics Consulting prepared a further update in December 2016 which stated that there have been at least 144 utility scale solar photovoltaic schemes submitted for planning permission in Ireland on 1,740 hectares with 387 MW capacity valid applications and 2,625 hectares with 537 MW (which includes valid applications and applications which were invalid, withdrawn and refused).

5.4.13. It does not purport to be 100% reflection of the solar planning pipeline but rather for information purpose only.

## 5.5. **International Planning Guidance**

5.5.1. There are a number of guidance documents public in the UK. They do not have a statutory basis in the Irish context, they are useful in informing the planning and environmental issues which arise.

### 5.5.2. **Planning Guidance for the development of large scale mounted solar PV systems' prepared by BRE National Solar Centre (UK) 2013**

This document is the most applicable in relation to assessment of large scale ground mounted PV systems.

This national guidance provides best practice planning guidance in respect of how large ground mounted arrays are developed and laid out. It provides advisory information on landscape / visual impact; construction and operational works, ecology, historic environment and setting, impacts including glint and glare and duration of the planning permission. Guidance is included on the information which should accompany a Landscape and Visual Impact Assessment and on EIA Screening procedures.

### 5.5.3. **The Planning System and Flood Risk Management Guidelines for Planning Authorities November 2009.**

These guidelines require the planning system at national, regional and local levels to:

- Avoid development in areas at risk of flooding, particularly floodplains, unless there are proven wider sustainability grounds that justify appropriate development and where the flood risk can be reduced or managed to an acceptable level without increasing flood risk elsewhere;
- Adopt a sequential approach to flood risk management when assessing the location for new development based on avoidance, reduction and mitigation of flood risk; and
- Incorporate flood risk assessment into the process of making decisions on planning applications and planning appeals.
- Carry out a site-specific flood risk assessment, as appropriate, and comply with the terms and conditions of any grant of planning permission with regard to the minimisation of flood risk.

5.5.4. The core objective of the Guidelines is to avoid inappropriate development in areas at risk of flooding.

5.5.5. Three types or levels of flood zones defined for the purposes of the Guidelines:

- Flood Zone A – where the probability of flooding from rivers and the sea is highest (greater than 1% or 1 in 100 for river flooding or 0.5% or 1 in 200 for coastal flooding);
- Flood Zone B – where the probability of flooding from rivers and the sea is moderate (between 0.1% or 1 in 1000 and 1% or 1 in 100 for river flooding and between 0.1% or 1 in 1000 year and 0.5% or 1 in 200 for coastal flooding); and
- Flood Zone C – where the probability of flooding from rivers and the sea is low (less than 0.1% or 1 in 1000 for both river and coastal flooding). Flood Zone C covers all areas which are not in zones A or B.

5.5.6. The guidelines in requiring assessment of flood risk sets out a methodology in chapter 3 to examine proposals through a series of stages including where identified the need for a justification test where identifiable risks are outlined. Chapter 5

indicates guidance in relation to development management of applications for development.

## 5.6. Development Plan

5.6.1. The current plan is the Waterford County Development Plan 2011-2017.

5.6.2. This plan has had its lifetime extended, as per Section 11A of the Planning and Development Act 2000, as amended, and will remain in effect until the new Regional Spatial and Economic Strategy is made by the Southern Regional Assembly. Thereafter a new City and County Development Plan will be prepared.

Chapter 7 of the plan refers to infrastructure and does not specifically refer to Solar Power. There are policies in relation to facilitating renewable energy generally including Policy INF26(3) which states: *'To facilitate, where appropriate, future alternative renewable energy developments throughout the County that are located in close proximity to the National Grid Strategy improvements so as to minimise the length and visual impact of grid connections'*.

Chapter 8 refers to Environment and Heritage and section 8.1 to landscape and that the management of the County's landscape involves: sustaining and conserving the landscape; protecting the landscape from inappropriate and unsustainable development; and ensuring adequate protection to sensitive and vulnerable landscapes through appropriate policies and objectives. Reference is made to Appendix A9 of the plan Scenic Landscape Evaluation and to various classifications of landscape. The site is not within any designated landscape in relation to visual sensitivity or amenity designation by reference to the Scenic Landscape Evaluation of the plan or impacting scenic routes as indicated in section 6.6 (b) Scenic Routes of the Scenic Landscape Evaluation.

Section 8.8 in particular refers to Renewable Energy. Policy ENV10 in this regard as a policy *'to facilitate and encourage sustainable development proposal for alternative energy sources and energy efficient technologies'*.

Chapter 10 to Development Management Standards. Table 10.10 in Chapter 10 is the Land Use Zoning Objectives table. The Agriculture land use zoning objective is *'to provide for the development of agriculture and to protect and improve rural amenity'*.

A variation to the Development Management Standards Chapter was adopted by the Council in September 2016. No further information is provided in relation to large scale solar energy projects.

### 5.6.3. **Waterford City and County Renewable Energy Strategy 2016-2030**

The Waterford County Development Plan incorporates the Waterford Renewable Energy Strategy 2016-2030.

Section 5.00 addresses solar energy and notes that Waterford county is in the top 15% in terms of solar resource in Ireland and has good potential for solar energy.

It notes that the National Renewable Energy Statement provides a target of 600MW of solar energy for Ireland by 2020. This Renewable Energy Statement has included a projection of 84.1MW of solar energy for Waterford up to 2030. It projects that this would require just over 168 hectares of land. The strategy although identifying potential and projected levels of energy does not provide any guidance on the best locations for projects. It notes the potential disadvantages in relation to solar farms including land take, impact on crop production, glint/glare issues and possible hydrological effects.

### 5.7. **Natural Heritage Designations**

The nearest Natura site the River Blackwater (Cork/Waterford) SAC (site code 002170) is approximately 1,200 metres to the south east.

## 6.0 **The Appeal**

### 6.1. **Grounds of Appeal**

The appellant in a submission dated the 20<sup>th</sup> of October 2017 refers to,

Reason no.1.

- In relation to reason no 1 the appellant considers that the absence of national, regional or local level is not a valid reason for refusal.
- Reference is made to the Renewable Energy Strategy for Waterford for Waterford 2016-2030.

- The Minister has indicated that there is sufficient guidance for the determination of solar projects and there are many major projects granted permission in the absence of guidelines.
- There is overwhelming support for renewable energy and solar energy at EU, National, Regional and Local level.
- Reference is made to EU Directive 2009/28/EC which supports renewable energy and sets targets for member states.
- At National level reference is made to the NSS; the National Renewable Energy Action Plan; Strategy for Renewable Energy 2012-2020; Irelands Transition to a Low Energy Carbon Energy Future 2015-2030 in support of this position.
- A visual impact assessment was submitted as part of the application which included assessment of cumulative visual impact and indicated cumulative visual impacts are minimal and impacts on landscape character would be extremely limited.
- The site can continue to be grazed by sheep.
- A number of panels are proposed to be removed from the northwestern field to address concerns raised by local residents.
- It is noted that the heritage officer considers the proposal may give rise to increased biodiversity.

#### Reason no 2

- In relation to reason no 2, an assessment indicated that of the 43 potential residential receptors only 4 had the potential to receive a solar reflection to of which are landowners of the proposed development. In relation to the properties in question the level of solar reflection is deemed to be low and it is proposed to grow an existing hedgerow and provide supplementary planting which would reduce the potential for solar reflections.
- Assessment in relation to solar reflection impact was also carried out in relation to the road network and 4 potential locations were identified which were further assessed in relation to further impact in particular for road users.

Supplementary planting where necessary is proposed but solar reflection is not an issue as road users would have to be looking away from the direction of travel to experience any potential reflection.

#### Reason no. 3

- In relation to reason no 3, it is acknowledged that part of the site is within flood zones A and B and a buffer of 25 metres was provided for either side of the stream with the exception the watercourse crossing.
- A further examination has been undertaken in relation to 1 in 100 flood events and 3 further inverter stations lie within the area.
- Reference is made to a revised proposal Figure 1.1 Site Layout-Rev B outlined in Appendix F of the submission removing all inverters and track with the exception of the watercourse crossing from the flood zone.
- It is also contended that solar farms and in particular solar racks are a water compatible development, are located a minimum of 700mm above ground level with no obstruction to water flow.
- The flood risk assessment also provides for additional attenuation swales and are designed so that run off rates remain the same as current flows.
- The applicant cites examples of solar farms which operate in flood zones.
- The applicant is willing to remove all infrastructure from the flood zones of deemed necessary by the Board.

#### Other matters raised in submissions.

- In relation to roads and site entrances, the applicant has submitted figures 1.5 and 1.6 of Appendix G to indicate the extent of road improvements required at site entrances.
- The site does not front onto the N72 and no remedial works are proposed at the junction of the local road and the N72.
- Additional traffic will be temporary in nature and the Board have considered similar issues in the context of National roads including where a site is directly accessed from the N72.

- A construction traffic management plan was submitted as part of the application and a more detailed plan will be submitted to and agreed with the local authority.
- Reinstatement works on local roads can also be agreed with the local authority and dealt with by a condition.
- The grid connection route was submitted but as part of the drawing pack but not in appendix 2 as indicated in the application to the planning authority. It is attached as Appendix I of the appeal submission.
- Solar energy is playing an increasing role in the energy mix globally.
- Issues raised by local residents are addressed by increased setbacks in the case of Mrs Mary Whelan, any gaps on the boundary hedge will be supplemented in the case of Mr John Whelan and there will be obstruction of a right of way or removal of boundary trees and hedges in relation to Mr Eddie Hodnett.

A number of appendices are submitted with the grounds of appeal.

## 7.0 Assessment

7.1. This is a first party appeal against the decision of Waterford City and County Councils decision to refuse permission for three reasons. Having regard to the terms of the planning authority decision I consider the key issues in determining the appeal are as follows:

EIA

Policy

Visual impact

Glint and glare.

Impact on residential amenity

Flood risk

These issues largely arise in the context of the stated reasons for refusal.

7.2. EIA

7.2.1. Schedule 5 of the Planning and Development Regulations, 2001 (as amended), sets out Annex I and Annex II projects which mandatorily require an EIS. Part 1, Schedule 5 outlines classes of development that require EIS and Part 2, Schedule 5 outlines classes of developments that require EIS but are subject to thresholds. Solar farms are not listed as a class of development under either Part 1 or 2 of Schedule 5 of the Planning and Development Regulations 2001, as amended, and therefore, I conclude that a mandatory EIA and the submission of an EIS is not required.

7.2.2. I note that there are some projects under No. 3 of Part 2, 'Energy Projects' which relate to energy production, but suggest that none of these projects would be applicable to a solar farm as proposed. In addition, as the solar farm development is not a development set out in Schedule 5 I do not consider that the subject development is a 'sub-threshold development' for the purpose of EIA. The Board will note that a similar conclusion has been reached in relation to their recently decided solar farm developments.

### 7.3. Policy

7.3.1. In section 5 of this report I have outlined policy at EU, national and county level in relation to energy and the transition from fossil fuels to renewable energy sources. The proposed development I consider is supported by national, regional and local policies in terms of renewable energy in particular the transition from fossil fuels.

7.3.2. The national policy context informs the County Development Plan and I note that in chapter 7 which refers to infrastructure it does not specifically refer to solar power but there are policies in relation to facilitating renewable energy generally including policy INF26(3) and in section 8.8 in particular which refers to Renewable Energy, policy ENV10 in this regard states as a policy *'to facilitate and encourage sustainable development proposal for alternative energy sources and energy efficient technologies'*.

7.3.3. The Waterford County Development Plan also incorporates the Waterford Renewable Energy Strategy 2016-2030 addresses solar energy and notes that Waterford county is in the top 15% in terms of solar resource in Ireland and has good potential for solar energy.



- 7.3.4. I consider therefore that the proposal is acceptable in principle and would contribute to the diversity of sources of energy supply and hence the security of supply. I would note that the acceptability of the proposal is contingent on other issues including impacts on inter alia visual and residential impact as indicated in the Waterford Renewable Energy Strategy 2016-2030.
- 7.3.5. I note that the first reason of the planning authority's reasons for refusal refers to the scale of the development, that would represent an unduly obtrusive feature in the landscape and impact on the rural character of the area and would be premature pending the adoption of national regional and local guidance or strategy for solar power.
- 7.3.6. In relation to the issue of prematurity in the absence of guidance the Renewable Energy Strategy for Waterford for Waterford 2016-2030 makes specific reference to solar power although not in terms of identifying specific locations. There is as indicated support for a transition to renewable energy including solar energy and the absence of a specific guidance does not necessarily preclude determination of applications made for such projects.
- 7.4. Visual impact.
- 7.4.1. A landscape and visual impact assessment and a glint and glare technical note (Appendix 4) was submitted in the documentation as part of the application, which included assessment of cumulative visual impact. The overall conclusion in relation to impact was that cumulative visual impacts are minimal and impacts on landscape character would be extremely limited and localised.
- 7.4.2. In relation to visual impact the site is located in an area which is typically rural in character with mature vegetation, trees and hedgerows. It is an undulating landscape in close proximity to the N72 a significant traffic route in the west of county Waterford and also the R 671 which has a junction with the N72 to the east of the site.
- 7.4.3. The significance of the impact is altering a traditional landscape by the inclusion of a Solar PV Energy development within a total site area of up to 62.8 hectares with an array of infrastructure including solar panels, electrical transformer/inverter station modules' and an internal trackway/ road network there is no doubt that the proposed development would change the local landscape from a visual perspective. The issue

however is the capacity of the receiving landscape to absorb the development in a manner that does not impact on the overall visual amenity of the area.

- 7.4.4. In terms of the receiving landscape and designations the site is not within any designated landscape in relation to visual sensitivity or amenity designation by reference to the Scenic Landscape Evaluation of the plan or impacting scenic routes as indicated in section 6.6 (b) Scenic Routes of the Scenic Landscape Evaluation. The area is however a typical but attractive mature working agricultural landscape.
  - 7.4.5. The landscape study has identified a zone of theoretical visibility (ZTV) and includes assessments based on 11 locations / viewpoints and also other receptors including dwellings in the area, settlements and visitor routes.
  - 7.4.6. The relation to the actual location of the development it is not immediately proximate to the N72 and there is significant hedgerow and other vegetation cover in the area which facilitates screening of the site. By reason of the existing planting along the roadside boundaries and within the site northern boundary the proposed development will be largely screened. That is not to say that the development will not be visible from the N72 and other roads in the area or from higher lands but I consider having examined the site from different locations that the landscape has the capacity to absorb any impact arising.
  - 7.4.7. I would therefore generally agree with the main conclusions of the landscape and visual impact assessment.
  - 7.4.8. In conclusion whilst there is no doubt that the proposed development would change the local landscape from a visual perspective, in my view however the established landscape is capable of absorbing this change. Having regard to the measures proposed which are to retain hedgerows and existing planting and the absence of any designations in the area, I am satisfied that the proposed development in its entirety would not adversely impact on the landscape and visual amenities of the area
- 7.5. Glint and Glare.
- 7.5.1. The second reason refers to glint and glare and potential impact on the road network including the N72 and local residents and that it has not been demonstrated that impacts arising from glint and glare could be appropriately addressed.

- 7.5.2. In the grounds of appeal, the appellant has submitted a glint and glare assessment which is included as Appendix E of the appeal submission and described as a Solar Photovoltaic Glint and Glare Study.
- 7.5.3. In relation to impacts on dwellings the study concludes that 4 dwellings out of a total of 43 dwellings assessed would have the potential to receive a solar reflection and 2 of the dwellings belong to landowners of the development.
- 7.5.4. In relation to the road network isolated points on the R671 and the local road network could experience glint and glare effects in a fleeting effect and no issues arise in relation to the N72.
- 7.5.5. By way of addressing potential impacts as indicated in section 8 of the study by the raising the height of hedgerows and filling in of any gaps in hedgerows this would address the effects which the study indicates are of a short duration. The appellant's contention is therefore that glint and glare do not arise as an issue.
- 7.5.6. The planning authority's reason does indicate that in the documentation submitted the information submitted did not demonstrate the potential impacts of glint and glare arising from the proposed development.
- 7.5.7. The UK Planning Guidance for the development of large scale mounted solar PV systems' prepared by BRE National Solar Centre (UK) 2013 addresses the issue of glint and glare and in relation to glint and glare it states: *'Glint may be produced as a direct reflection of the sun in the surface of the solar PV panel. It may be the source of the visual issues regarding viewer distraction. Glare is a continuous source of brightness, relative to diffused lighting. This is not a direct reflection of the sun, but rather a reflection of the bright sky around the sun. Glare is significantly less intense than glint. Solar PV panels are designed to absorb, not reflect, irradiation. However, the sensitivities associated with glint and glare, and the landscape/visual impact and the potential impact on aircraft safety, should be a consideration. In some instances, it may be necessary to seek a glint and glare assessment as part of a planning application. This may be particularly important if 'tracking' panels are proposed as these may cause differential diurnal and/or seasonal impacts. The potential for Solar PV panels, frames and supports to have a combined reflective quality should be assessed. This assessment needs to consider the likely reflective capacity of all the materials used in the construction of the solar PV farm.'*

- 7.5.8. The appellant has submitted to the Board has submitted a study which outlines an assessment of impacts arising which I consider addresses a deficiency in the original documentation.
- 7.5.9. The proposed solar panels are typically set 0.7m above ground level at the lowest point increasing to a maximum height above ground level of 3.2m. The panels which are mounted onto racks which are south facing and it is proposed will be mounted between 22 and 30 degrees to the horizontal but this may be adjusted to suit local conditions. The solar panels will be fixed in position using galvanised steel framing piles driven into the ground, so there will be no moving parts.
- 7.5.10. Solar panels are normally dark in colour and designed to absorb rather than reflect daylight and therefore have a low level of reflectivity (or glare) when compared to other surfaces. Any glint which would occur, would do so for short periods when the sun is shining above the plane of the PV panels and there is reference in the study to a period of 20 minutes in this regard.
- 7.5.11. Based on the details submitted in the study, the existing level of planting, the measures proposed including additional supplementary planting and the distance from the road network including the N72 I consider that the documentation as presented does not indicate that a significant impact will arise.

## 7.6. Residential Amenity

- 7.6.1. Submissions were received from local residents outlining issues in relation to the issue of loss of amenity and impact on residential amenities prior to the planning authority's decision. Many of the issues related to traffic which I consider will only arise during the additional traffic arising during the construction phase and that during the operational phase there will not I consider be any significant impact on the road network or in relation to road safety.
- 7.6.2. In relation to other impacts in the grounds of appeal the applicant has indicated that no hedgerows will be removed and replacement of hedgerows and supplementary planting is proposed as identified in the glint and glare study and also some increased separation from dwellings is proposed increasing to in excess of 100 metres.

7.6.3. Based on the information submitted noise impacts will largely be confined to the construction period. In the operational period given the nature of the development no noise impacts should arise during the night period.

7.7. Flood risk.

7.7.1. Flood risk arises in relation to the third reason for refusal as stated by the planning authority. The Clashnagoneen River traverses the site in an east west direction and as part of the proposal a new crossing of the river is proposed to facilitate the development in relation to construction of the infrastructure required which includes internal roads and cabling.

7.7.2. As part of the submission a flood risk report was submitted and this included as appendix 7 of the initial submission. The report current and historical drainage patterns and assesses runoff from permeable and impermeable surfaces in the context of peak flow rates for critical rainfall events. The details submitted also provide for a drainage system to maintain runoff rates to the watercourse similar to runoff associated with greenfield conditions with provision made for attenuation of overland flows and the provision of swales.

7.7.3. The planning authority concerns relate to the proposal which is partially located within zones A and B as defined in the flood risk guidelines as areas which should be avoided for development and only considered in exceptional circumstances and the details as submitted do not demonstrate exceptional circumstances.

7.7.4. In the grounds of appeal as submitted it is acknowledged that part of the site is within flood zones A and B and a buffer of 25 metres was provided for either side of the stream with the exception the watercourse crossing. A further examination was undertaken in relation to 1 in 100 flood events an indicated that 3 further inverter stations lie within the areas of zones A and B. arising from this reference is made to a revised proposal Figure 1.1 Site Layout-Rev B as outlined in Appendix F of the grounds of appeal submission removing all inverters and track with the exception of the watercourse crossing from the flood zone.

It is also contended that solar farms and in particular solar racks are a water compatible development, are located a minimum of 700mm above ground level with no obstruction to existing surface water flows.

It is also indicated that the flood risk assessment also provides for additional attenuation swales and are designed so that run off rates remain the same as current flows and may reduce flows.

In the grounds of appeal, the applicant cites examples of solar farms which operate in flood zones and the applicant is willing to remove all infrastructure from the flood zones of deemed necessary by the Board.

The Planning System and Flood Risk Management Guidelines for Planning Authorities November 2009 set out guidance in relation to assessment of development in areas at risk from flooding. The guidelines emphasis avoidance of development in areas at risk of flooding, particularly floodplains, unless there are proven wider sustainability grounds that justify appropriate development and where the flood risk can be reduced or managed to an acceptable level without increasing flood risk elsewhere. The core objective of the Guidelines is to avoid inappropriate development in areas at risk of flooding.

- 7.7.5. As part of an assessment the adoption of a sequential approach to flood risk management when assessing the location for new development is outlined based on avoidance, reduction and mitigation of flood risk; and to carry out a site-specific flood risk assessment, as appropriate.
- 7.7.6. The guidelines in requiring assessment of flood risk sets out a clearly defined methodology in chapter 3 to examine proposals through a series of stages including where identified the need for a justification test where identifiable risks are outlined. The key principles of a risk-based sequential approach is indicated as managing flood risk to avoid development in areas at risk of flooding and if this is not possible, consider substituting a land use that is less vulnerable to flooding and that only when both avoidance and substitution cannot take place should consideration be given to measures to address management of risks and that inappropriate types of development that would create unacceptable risks from flooding should not be planned for or permitted and where required to be permitted the sustainable management of flood risk to an acceptable level must be demonstrated but this is considered to be as exceptional.
- 7.7.7. Three types or levels of flood zones defined for the purposes of the Guidelines and in areas defined as Flood Zone A, the guidelines consider that most types of

development would be considered inappropriate in this zone. In relation to Flood Zone B, highly vulnerable development and infrastructure, would generally be considered inappropriate in this zone and in general less vulnerable development should only be considered in this zone if adequate lands or sites are not available in Zone C. in relation to development management of applications for development based on the methodology indicated the adoption of a precautionary approach is recommended.

- 7.7.8. In considering the current proposal, I would refer to appendix F of the grounds of appeal and in particular figure 1.1 which identifies a corridor / buffer zone along the river free of development and also development outside of the buffer area which would be within the 1 in 100-year flood zone.
- 7.7.9. The overall thrust of the guidance I consider is the avoidance of unnecessary risk in relation to flooding and the application of the precautionary principle. It is therefore clear that in zones A and B the avoidance of development is the general principle unless an exceptional position is defined and established.
- 7.7.10. Notwithstanding the proposals which apply to the site generally in relation to drainage management and which as demonstrated are necessary to maintain current run off levels and will not give rise to increased runoff rates and control the release of run off to mimic current flows and rates I do not consider that development within zones A and B has been demonstrated as exceptional and necessary. The only consideration is the provision of a crossing of the watercourse and the details as submitted have addressed the issue of flooding and flow rates in the channel of the watercourse.
- 7.7.11. In overall terms in relation to flood risk I consider that based on the documentation as submitted the risk in relation to flooding has been assessed. Measures are outlined to attenuate runoff with the provision of additional drainage measures. I do however consider development /infrastructure should be omitted in Zones A and B.

## 7.8. **Appropriate Assessment.**

- 7.8.1. In appendix 1 of the applicant's submission to the planning authority on the 6<sup>th</sup> of November 2017 a stage 1 screening report was submitted.
- 7.8.2. The site is not within a Natura site. The nearest Natura site the River Blackwater (Cork/Waterford) SAC (site code 002170) is approximately 1,200 metres to the south

east. The watercourse traversing the site forms part of the catchment of the River Blackwater. There is no reduction or loss of a designated site.

- 7.8.3. The River Blackwater SAC covers a vast area consisting of the freshwater stretches of the River catchment as far upstream as the Kerry /Cork boundary and it also includes the tidal reaches of the river following the course of the channel of the river and main tributaries. The qualifying interests include terrestrial and aquatic habitats and species.
- 7.8.4. In relation to Annex 1 habitats and species none of the listed species are proximate to the site and the potential for direct impact would not appear to arise.
- 7.8.5. In relation to potential link in the context of Source-Pathway-Receptor between the appeal site and the SAC site it would arise from an indirect impact. The appeal site would be within the overall drainage catchment of the River Blackwater as the Clashnagoneen River which traverses the site flows into Magaha River which is a tributary of the River Blackwater.
- 7.8.6. The screening report assesses potential impacts arising from the development in the construction and operational phases of the development with particular consideration of runoff from the site into the watercourse and consequent impact downstream from the site.
- 7.8.7. The potential impacts from the construction phase arise from material entering the watercourse from sediment, materials used in the construction of the internal road and river crossing and hydrocarbons are assessed and measures including minimum separation distances of construction activities from watercourses and the application of construction management practices to prevent accidental spillages are outlined.
- 7.8.8. Water discharge on the working area of the site during the operational phase is to an existing surface water drainage system with attenuation measures integrated into the discharge from the site.
- 7.8.9. Water discharge impacts (direct or indirect) of the project alone and in combination with other projects I consider can be reasonably ruled out on the basis of objective scientific information.
- 7.8.10. Impacts (direct or indirect) of the project alone and in combination with other projects I consider be reasonably ruled out on the basis of objective scientific information.



7.8.11. There is I consider no evidence to suggest any connectivity between the appeal site and the SAC.

7.8.12. In conclusion, therefore, having regard to the scale, nature and operation of the development, the absence of defined connectivity to the nearest European site, no Appropriate Assessment issues arise and it is not considered that the proposed development would be likely to have a significant effect individually or in combination with other plans or projects on a European site.

## **8.0 Recommendation**

8.1. It is recommended that permission for the development be granted for the following reasons and considerations.

## **9.0 Reasons and Considerations**

9.1. Having regard to:

- national and county level policies in favour of the deployment of renewable energy,
- the scale, extent and layout of the proposed development,
- the pattern of development in the area, and the generally good screening available to the site by means of existing hedgerows, and
- to the current designation of the site in the current Waterford County Development Plan,

it is considered that, subject to compliance with the conditions set out below, the proposed solar farm would not seriously injure the visual or residential amenities of the area, would be acceptable in terms of landscape impacts and traffic safety and convenience and would not endanger human health or the environment. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

9.2. Having regard to the Appropriate Assessment Screening Report submitted with the planning application, the report of the Inspector and the nature, scale and location of the proposed development, the Board is satisfied that the proposed development,

either individually or in combination with other plans or projects, would not be likely to have a significant effect on any European Site, in view of the sites' conservation objectives. In this regard, the Board concurred with and adopted the Planning Inspector's conclusions in respect of Appropriate Assessment Screening.

## 10.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, as amended by the further plans and particulars submitted on the 4<sup>th</sup> of August, 2017 and by the further plans and particulars received by An Bord Pleanála on the 23<sup>rd</sup> day of October, 2017, 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 interests of clarity.

- 2 The period during which the development hereby permitted may be carried out shall be 10 years from the date of this Order.

**Reason:** Having regard to the nature of the proposed development, the Board considered it reasonable and appropriate to specify a period of the permission in excess of five years.

- 3 (a) The permission shall be for a period of 25 years from the date of the commissioning of the solar array. The solar array and related ancillary structures shall then be removed unless, prior to the end of the period, planning permission shall have been granted for their retention for a further period.

(b) Prior to commencement of development, a detailed restoration plan,

including a timescale for its implementation, providing for the removal of the solar arrays, including all foundations, anchors, inverter/transformer stations, substation, CCTV cameras, fencing and site access to a specific timescale, shall be submitted to, and agreed in writing with, the planning authority.

(c) 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.

- 4 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

- 5 (a) Existing field boundaries shall be retained, notwithstanding any exemptions available and new planting undertaken in accordance with the plans submitted to the planning authority on the 4<sup>th</sup> of August, 2017 and by the further plans and particulars received by An Bord Pleanála on the 23<sup>rd</sup> day of October, 2017.

(b) All landscaping shall be planted to the written satisfaction of the planning authority prior to commencement of development. Any trees or hedgerows that are removed, die or become seriously damaged or diseased during the operative period of the solar farm as set out by this permission, shall be replaced within the next planting season by trees or hedging of similar size and species, unless otherwise agreed in writing with the planning authority.

(c) all supplementary planting indicated to address potential impact arising

from glare and glint as indicated in the Solar Photovoltaic Glint and Glare Study received by An Bord Pleanála on the 23<sup>rd</sup> day of October, 2017 shall be implemented.

**Reason:** In the interest of biodiversity, the visual amenities of the area, and the residential amenities of property in the vicinity

- 6 (a) No artificial lighting shall be installed or operated on site unless authorised by a prior grant of planning permission.
- (b) CCTV cameras shall be fixed and angled to face into the site and shall not be directed towards adjoining property or the road.
- (c) Cables within the site shall be located underground.
- (d) The inverter/transformer stations shall be dark green in colour. The external walls of the proposed substation shall be finished in a neutral colour such as light grey or off-white and the roof shall be of black slate or tiles.

**Reason:** In the interests of clarity, of visual and residential amenity and to minimise impacts on drainage patterns and surface water quality.

- 7 The proposed development shall be undertaken in compliance with all environmental commitments made in the documentation supporting the application.

**Reason:** To protect the environment

- 8 (a) No infrastructure with the exception of the river crossing shall be erected within the areas defined as being within the identified Flood zones A and B and within the buffer zones as identified in figure 1.1 of Appendix F of the grounds of appeal received by An Bord Pleanála on the 23<sup>rd</sup> day of October, 2017.
- (b) Drainage measures in relation to attenuation of runoff from the site shall be in accordance with the flood risk assessment and further particulars received by An Bord Pleanála on the 23<sup>rd</sup> day of October, 2017.

**Reason:** To protect the environment and to ensure that measures are

implemented to address any potential flooding arising from this development.

- 9 The developer shall facilitate the archaeological appraisal of the site and shall provide for the preservation, recording and protection of archaeological materials or features which 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, and

(b) employ a suitably-qualified archaeologist prior to the commencement of development. The archaeologist shall assess the site (including archaeological testing) and monitor all site development works.

The assessment shall address the following issues:

(i) the nature and location of archaeological material on the site, and

(ii) the impact of the proposed development on such archaeological material.

A report, containing the results of the assessment, shall be submitted to the planning authority and, arising from this assessment, the developer shall agree in writing with the planning authority details regarding any further archaeological requirements (including, if necessary, archaeological excavation) prior to commencement of construction works.

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 area and to secure the preservation (in-situ or by record) and protection of any archaeological remains that may exist within the site.

- .10 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 but not limited to, hours of working, noise and dust management measures, surface water management proposals, the management of construction traffic and off-site disposal of construction waste.

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

- . 11 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 on 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.

- 12 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. Details of the application of the terms of the Scheme 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 the proper application of the terms of the Scheme.

**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.

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. Derek Daly  
Planning Inspector

25<sup>th</sup> August 2018