An Bord Pleanála

Inspector's Report PL26.247366

Development	Development of a solar photovoltaic array consisting of up to 88,600m² of solar panels on ground mounted steel frames with all associated site services and works
Location	Ralphtown, Muchtown & Newtonbeg near Baldwinstown, Co. Wexford
Planning Authority	Wexford County Council
Planning Authority Reg. Ref.	20160811
Applicant(s)	Harmony Solar Ralphstown Ltd.
Type of Application	Planning permission
Planning Authority Decision	Refuse permission
Type of Appeal	First Party
Appellant(s)	Harmony Solar Ralphstown Ltd.
Observer(s)	John J. McIntyre, Baldwinstown Gerard & James Rochford & Family
Date of Site Inspection	11th January 2017
Inspector	Mary Kennelly

1.0 Site Location and Description

1.1. The site comprises two separate parcels of land which are located on either side of the R738, a N-S route linking the Bridgetown/Kilmore Quay area with the N25 between Wexford and Waterford. The two parcels of land are separated by c. 750m (straight line) and 1km by road. The R738 travels northwards from its junction with the R736, an E-W route linking Killinick on the N25 south of Wexford town to Wellingtonbridge. The southernmost parcel of land, which the applicant refers to as the South Array, (or Ralphtown), is situated just to the north and west of the junction of the R736 and R738 and has frontage to each of the regional roads. The northernmost parcel of land, which the applicant refers to as the North Array, (or Newtown), is accessed from a local road to the north-east of the R738, via a farm laneway. The Wexford-Waterford main line railway line also traverses the area with an E-W orientation and bounds the southern parcel on its southern boundary. In addition, the area is drained by several rivers and streams which generally flow southwards towards the sea. A 38kV overhead line runs to the southwest of the site.

1.2. The Newtown site, or North Array, (11.7ha), has an elongated shape which runs parallel to the county road, 60-100m to the west, and to the Cleristown Stream to the east. It comprises 4 no. agricultural fields which are in agricultural use (grazing and tillage), and are generally defined by low boundary hedging. The lands are gently undulating. The proposed access track leading to the site travels along an existing laneway to the farmhouse/yard and then cuts across a field to the site. There is a further access track from the main road further to the north. There are a number of single dwellings and farm houses along the main road and along a further public road to the north of the site.

1.3. The Ralphtown site, or South Array, (19.5ha), comprises 8 no. agricultural fields, with a northern and southern section and a pinch point in the centre. These lands were also in agricultural use at time of inspection, with grazing on the northern section and tillage in the southern section. The northern section adjoins the R738 with road frontage along the eastern boundary and a farmhouse and yard to the west. The southern section is bounded to the west by Longbridge River, to the south by the railway line and the R736, and to the east, by a concentration of residential

properties which form part of Baldwinstown village. A small stream also traverses a small part of the south western section of the site.

2.0 Proposed Development

2.1. It is proposed to construct a total of 88,600m² of solar panels, across two parcels of land, on ground mounted steel frames, together with an associated substation, switch rooms, a communications room and transformer inverter stations and a perimeter fence and associated site works and landscaping measures. The Newtown site would accommodate 33,990m² and the Ralphtown site would accommodate 54,610m² of solar panels, respectively. 7 no. inverter/transformer stations would be located on the southern site, together with the substation, and 4 no. transformer stations on the southern site.

2.2. The application does not specify the generating capacity of the proposed solar farm. However, the applicant had indicated in pre-planning discussions with the P.A. that the maximum generating capacity is likely to be 17MW of electricity. The proposed scheme is comprised of cells which combine to form modules, which in turn, are laid out in arrays. These arrays are then connected in series and are connected to the sub station by means of collector modules at each end of the arrays. It is stated that the proposed site would be connected to the ESB Network via the existing 38kV line that traverses the southern part of the site. It is further stated that the northern array development would be connected to the southern array by means of an underground cable on the public roads. The anticipated grid connection would be made at the proposed substation, where a new 'Bus-Bar' link would link to the existing overhead 38kv line (which will be subject to a future application). The two parts of the site would be linked by underground cable in accordance with ESB specifications along the public road.

2.3. The application was accompanied by a Planning & Environment Report, a Natura Impact Statement, an Outline CEMP, a Site Specific Flood Risk Assessment, a Landscape Visual Impact Report, an Archaeological Assessment Report and a Glint and Glare Report. A land-holders' consent letter was also submitted.

3.0 Planning Authority Decision

3.1. Decision

The planning authority decided to refuse permission for one reason. This was based primarily on the adverse impact of glint and glare on residential properties in close proximity to the site and on users of the surrounding road network, and that the proposed development could result in a traffic hazard.

3.2. Planning Authority Reports

3.2.1. Planning Reports

3.2.1.1 The Planning report notes that the development of renewable energy schemes are supported by national, regional and local policies and that the proposal would be the largest of its nature in the country at present. It is further noted that CDP policy EN10 seeks to prepare a Renewable Energy Strategy for the County during the lifetime of the Plan. It was considered that the proposal would not result in the permanent loss of agricultural land as the panels are to be secured to the ground by steel piles with limited soil disturbance, which could be removed in the future without permanent loss of agricultural land quality.

3.2.1.2 The area is not within a landscape designated area of great sensitivity and the population density is relatively low. It was considered that the visual impact would be localised as the development would be largely screened by means of topography, substantial hedgerows and setback from the public roads. Similarly, it was considered that the low lying nature and topography of the area means that with natural screening and fencing, the impact of glint and glare is likely to be limited. However, the exception to this related to Dwelling No. 65 in the applicant's document. It was considered that mitigation in respect of this property would not be possible, and as such, permission should be refused.

3.2.1.3 It was considered that an EIA would not be necessary as the development did not qualify for the mandatory requirement and the proposal was not considered to be sub-threshold. An AA Screening Assessment was carried out and it was noted that the site had direct hydrological links to the Ballyteigue Burrow cSAC and SPA (Site codes 000696 and 004020 respectively). It was considered that the mitigation in the

NIS would be adequate and that these could be conditioned. The proximity to 5 other Natura sites (within 10 km radius) was noted, but it was considered that there was no hydrological link to these sites. The comments of the Biodiversity Officer were noted in respect of the potential for siltation of watercourses and the proximity of the development to a known bat roost. However, the Area Planner considered that these matters could be adequately addressed by means of mitigation as proposed in the NIS. It was further noted that it is intended to provide 5 no. ecological enhancement areas and to maintain and augment the native hedgerows.

3.2.2. Other Technical Reports

Biodiversity Officer – having regard to the scale of the proposed development, to the hydrological link between the site and the Ballyteigue SAC and SPA (4.47km to the south), and to the presence of a known roost of Leisler bats nearby, further information was requested to inform a more detailed assessment of the proposed development. It was considered necessary to carry out a full bat activity survey to ascertain the level and nature of activity of bat species/bat roosts within the site. Mitigation measures such as silt fencing/silt traps and fuel/oil bunding were noted but full design details were required with an associated revised site layout.

3.3. Prescribed bodies

3.3.1 Dept. Arts Heritage Regional, Rural & Gaeltacht Affairs (18/08/16) - referred to the NIS which had been submitted with the application and noted that there is a hydrological link between the proposed development and Ballyteigue Burrow SAC and SPA. The following observations were made :-

- Whooper Swans – it is unclear from the ecological appraisal whether Whooper Swans do or do not feed on the proposed development site as it was visited in June.
- Bats – it is unclear whether any bat roosts were found and whether there is any bat feeding activity on site.
- The P.A. should ensure that the applicant has submitted adequate information to enable it to carry out a robust appropriate assessment, particularly to ensure that there is adequate protection of water quality to ensure there is no adverse impact on Ballyteigue Burrow SAC and SPA.

- The P.A. should ensure that in any permission that is granted, that there is adequate protection for any species on site that is protected under national and/or European legislation.

3.3.2 **An Taisce (12/08/16) –** A strategic National and Regional Strategy is required for solar array development with optimum location suitability which at the same time, protecting biodiversity and landscape sensitive areas and good tillage.

3.4. Third Party Observations

3.4.1 Submissions were received from 18 no. third parties, which may be summarised as follows:-

- Lack of policy framework/guidelines
- Loss of prime agricultural land for 30 years and impact on agriculture.
- Visual amenity – impact on views; scale of development out of character with rural area; visual impact of panels and security fencing; durability of panels.
- Residential amenity – light pollution, invasion of privacy from CCTV cameras, adverse impact on property values and health impacts from EMF/radiation.
- Glint and glare – topography means there will be severe impact on residential amenity, agricultural practice and traffic safety; mitigation insufficient; need 1km buffer as required in UK.
- EIA – no EIS submitted; EIS required; cumulative impact with wind farm at Baldwinstown.
- Grid connection – no information on grid connection in terms of location or capacity of grid to accept electricity; where will cable exist site and what route will they follow?
- Construction impacts – impact on groundwater contamination; flooding risk from run-off; traffic impact not adequately assessed.
- Biodiversity – inadequate bird surveys given time of year undertaken.
- Archaeology – only a desk top study undertaken.
- No fire hazard/emergency plan.

4.0 Planning History

4.1. No relevant planning history on the site.

4.2. There have been several planning decisions in respect of solar farms in the Wexford area. The P.A. report refers to recently permitted applications including Reg. Ref. Nos. 20160008, 20160009, 20160644 and 20160520, each of which was for a solar farm development on a site of 10 hectares or over to the south of Rosslare.

4.3. PL26.247217 – Killininick, Tomhaggard - south of Rosslare, Co. Wexford for a solar farm on a site is 89.46ha – currently before the Board.

4.4. PL26.247176 – Enniscorthy – permission granted by the Board for a solar farm on a site of 13ha.

4.5. PL26.247179 – Clonroche Co. Wexford – permission granted by the Board for a solar farm on a site of 20 hectares.

4.6. PL26.246966 – The Leap, Enniscorthy, Co. Wexford – permission granted by the Board for a solar farm on a site of 10 hectares.

4.7. PL26.246321 – Ballinclay Hill, Clonroche – permission granted by the Board for a solar farm on a site of 10 hectares.

4.8. PL26.244351 – Tintern, (South-West Wexford) - permission granted by the Board for a 5MW solar farm development on a site of 10 hectares.

5.0 Policy Context

5.1 Energy White Paper – Transition to a Low Carbon Energy Future 2015-2030

5.1.1. The Energy White Paper comprises a complete update on national energy policy. It sets out a range of actions that the Government intends to take. The vision is to achieve low carbon energy, whereby Green House Gas (GHG) emissions from the energy sector would be reduced by 80-95% compared to 1990 levels and that GHG would fall to zero or below by 2100. However, it does not supercede the **NREAP** (National Renewable Energy Action Plan), which set out Ireland's approach to achieving its (legally binding) targets, with a target of 40% of electricity consumption to be from renewable sources by 2020.

5.1.2. Paragraph 137 of the White Paper states:

> "The deployment of solar 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……..[and] is one of the technologies being considered in the context of the new support scheme for renewable electricity generation which will be available in 2016."

5.1.3. The White Paper also sought to publish a Renewable Electricity Policy and Development Framework (with a spatial dimension) to underpin the proper planning and development of larger scale renewable electricity generation development on land. It is envisaged that such a plan will give guidance to those seeking development consent and to planning authorities in relation to larger-scale onshore renewable electricity projects.

5.2 Draft Strategic Environmental Assessment Scoping Report for a Renewable Electricity Policy and Development Framework 2016 (DCENR)

5.2.1 The Draft Scoping report was published in early 2016. The consultation phase has ended but the final document has not yet been published. This document outlines a process which seeks to identify potentially suitable land areas for the large scale generation of renewable energy (over 50MW), which would in future inform any revised NSS and/or regional and local planning policy. It is stated that up to 4,000MW of renewable energy generation capacity will be required to allow Ireland to meet its 40% renewable electricity needs by 2020. It is stated that

> A Progress Report on the NREAP was issued in January 2012, showing that 3,900MW of renewable energy grid connection offers had been made. Not all of these projects have planning permission and it is likely that a significant number will not be developed.

5.2.2 Reference to solar power is made in Section 5.1.3

The 2010 NREAP does not envisage solar power making a contribution to Ireland's 2020 renewable electricity targets. However, it is noted that there has recently been a significant decrease in the cost of solar PV panels and that this technology should offer some possibilities in Ireland in the medium term up to 2030. The recently published Green Paper on Energy Policy in Ireland, May 2014, DCENR, raises the question of the future role of solar energy. The contribution made in 2014 by solar power on the island of Ireland is shown in Table 1. This indicates that out of a total of 3,194MW of renewable capacity, 5.6MW was contributed by solar power.

5.3 Planning and Development Guidance Recommendations for Utility Scale Solar Photovoltaic Schemes in Ireland October 2016

5.3.1 This is a research paper which was funded by the SEAI. It sets out the policy framework for renewable energy, including reference to relevant targets, and provides information on the achievements to date. It is noted that at the beginning of October 2016, planning applications for over 100 utility scale solar PV (USSPV) developments had been submitted to planning authorities across the state. It was estimated that, if implemented, these would contribute at least 594MW of renewable electricity. However, it was also noted that there is currently no REFIT scheme to subsidise the generation of electricity from USSPV sources. The document also provides guidance on the assessment of proposed solar farm developments. It is suggested that this guidance may contribute to the evidence base that will inform the development of Section 28 planning guidance for Utility Scale Solar Photovoltaic (USSPV) developments in Ireland in due course.

5.4 Wexford County Development Plan 2013-2019

5.4.1 Renewable Energy

Objective EN07 is to favourably consider proposals for renewable energy subject to compliance with standards in Chapter 18.

Objective EN10 is to prepare a Renewable Energy Strategy for County Wexford during the lifetime of the Plan which will build on and support the Wind Energy Strategy 2013-2019, any Climate Change Strategy for the County and the National Renewable Energy Action Plan (DCENR 2010).

5.4.2 Solar power - **Section 6.4.4** notes that the County is ideally positioned to capitalise on its assets in terms of hydro, solar, tidal and wind energy. **Section 11.3.5** refers specifically to Solar Power, providing a description of the technology.

5.4.3 Landscape - The area in which the site is located is within the **'Lowland' landscape** which areas are deemed to have a higher capacity to absorb developments.

Objective L04 is to require all developments to be appropriate in scale and sited, designed and landscaped having regard to their setting in the landscape so as to ensure that any potential adverse visual impacts are minimised.

Objective L09 - Consideration of siting, design and landscaping for all developments and to have regard to the site specific characteristics of the natural and built environment. In Volume 3, it is noted that care still needs to be taken on a site by site basis, particularly to minimise the risks of developments being visually intrusive.

There are no listed views in the vicinity of the site. There are no protected structures within the site, but there are a number of structures in the vicinity.

5.4.4 Agriculture - Section 6.4.6 outlines the importance of agriculture in the local economy including for employment. **Objective ED17** is to promote the continued development of food production and processing, while other policies refer to diversification.

5.5 UK Guidance – PPG for Renewables and Low Carbon Energy (DCLG 2015)

5.5.1 This guidance includes advice on developing a strategy for renewable and low carbon energy development, as well as particular planning considerations relating to specific renewable technologies, including solar power. These include the following points:

- Encourage effective use of land by focussing large scale developments on previously developed and non-agricultural land.

- On greenfield sites, question whether the proposed use of agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land.
- Establish whether the proposal would allow for continued agricultural use where applicable or encourage biodiversity improvements around arrays.
- Consider visual impacts and the impacts of glint and glare on the landscape, local residents and aircraft safety and the potential to mitigate these impacts through for example screening with native hedges.
- Consider the impacts of security lighting, fencing etc.
- Great care should be taken to ensure heritage assets are conserved in a manner appropriate to their significance.
- Cumulative impacts should be considered.

5.6 Planning Guidance for the Development of Large Scale Ground Mounted Solar PV Systems (BRE 2013)

5.6.1 This guidance provides similar advice to the PPG but also includes advice on Environmental Impact Assessment in relation to solar farms. It is stated that USSPV developments should be directed to brownfield or industrial land in preference to agricultural land and that the best quality agricultural land should not be the first choice, with lands in the poorer classifications being the most appropriate.

6.0 The Appeal

6.1. Grounds of Appeal

The first party appeal was submitted by Fehily Timoney Consultants on behalf of the applicant. The main points raised may be summarised as follows:

6.1.1 <u>Glint and glare</u>

- The findings of the initial study submitted with the application are reiterated. This desk top study had been undertaken by PagerPower, which had concluded that there would be a minor potential impact in respect of some

dwellings but a negligible impact on Dwelling No. 65, on road users and on the Rosslare-Waterford railway line (currently disused).

- The PagerPower report had informed the landscape design and screening mitigation as shown in BSM Drawing Ref. 6271-301. However, the P.A. does not appear to have made any reference to these mitigation measures or commented on their likely effectiveness. The appellants have commissioned a further study comprising a detailed on-site evaluation and peer review of the original report. This study, carried out by Aardvark Consultants, was based on two site visits undertaken on 22nd and 23rd September 2016 and confirmed the findings of the PagerPower report.
- It is reiterated that whilst it is considered that no mitigation is deemed necessary, the screening proposed in the Landscape Masterplan will be implemented and the applicant would be happy to comply with any additional conditions that the board might consider necessary in respect of temporary screening until vegetation matures.

6.1.2 Landscape and landuse – The LVIA submitted with the application had indicated that the design process had been informed by the need to avoid undue visual impact in terms of the position of the proposed substation, proposed screening mitigation, proposed ecology enhancement areas and the configuration of the entrance to the South Array. It was reiterated that there would be no landscape impact and it was noted that the P.A. report had considered that the site was well chosen in terms of visual impact.

6.1.3 CCTV and light pollution - Reference is made to the concerns raised by observers in this respect. It is stated that all CCTV cameras will be placed to observe only the site equipment and panels and that CCTV cameras will use Infra-red light and hence no light pollution is envisaged.

6.1.4 Health and safety concerns – All EMF levels will be within limits suggested by International Commission on Non-Ionizing Radiation Protection and the WHO has stated that exposure below these limits does not have consequences for health. It is further stated that there is no evidence that solar panels may leak and affect ground water.

6.1.5 Drainage – the findings of the Flood Risk assessment have been reiterated and there would be no increased risk arising from the proposed development.

6.1.6 Traffic and access – increased traffic levels will only occur during construction. The CEMP indicates that the adjacent roads have the capacity to serve the estimated traffic levels and that safe site access can be provided.

6.1.7 Biodiversity and wildlife – The proposal would have a neutral to positive effect on bio-diversity due to the absence of intense agricultural practices and the provision of new native species planting. It is accepted that the protection of the bat roost identified could be addressed by means of condition. The NIS concluded that there would be no adverse effect on adjacent designated conservation sites.

6.1.8 Property value – there is no evidence of any significant long-term impact on property values associated with solar farms.

6.1.9 Planning guidelines and preparation of an EIS – in the absence of national policies on solar farms, the board is referred to UK guidelines on solar farms.

6.2. Planning Authority Response

6.2.1 The P.A. responded on the 18th October, 2016. It is noted that minor impacts on Dwellings 64 and 65 had been identified in the original G & G report by PagerPower, which had included impacts arising from views of the panel area which would be mitigated by means of hedgerows. It is pointed out that the hedgerows are existing and are tall. It is contended that dwelling no. 65 will be unduly affected and that short term mitigation would be neither possible nor effective, whether applied initially or retrospectively. It is submitted that the issue of glint and glare is not adequately understood in this jurisdiction. It is stated that there are many sites and landscape areas in County Wexford which would be capable of accommodating solar developments of this scale without potential adverse impacts on visual or residential amenity.

6.3 Observations

6.3.1 John J. McIntyre

6.3.1.1 This observer is the occupant of D65 (Glint and Glare Study). Given the scale of the development, it is not accepted that glint and glare would be negligible or

acceptable. The likely effectiveness of the mitigation proposed for D64 (existing trees and shrubs along R738) is disputed as the vision splay for the site entrance would result in the removal of a proportion of the trees, hedges and shrubs along the road frontage. This would inevitably reduce the screening effect.

6.3.1.2 The proposed mitigation in respect of D65, in terms of impact from glint and glare, would similarly be affected by the need to cut back vegetation along the R738 to the south of the entrance

6.3.1.3 The scale of this industrial solar farm is out of character with this rural location. Alternative sites should be explored rather than impacting on local residents and on public safety.

6.3.2 Gerard Rochford & James Rochford & Family

6.3.2.1 The address given for this observer is that of Dwelling D19 (Glint and Glare study). The location of the proposed solar farm development is in close proximity to a number of dwelling houses. A survey was undertaken and a series of photographs together with a map showing the locations from which they were taken is enclosed with the observation.

6.3.2.2 It is submitted that the photographs indicate that the level of natural screening is very poor in places, which would result in clear visibility of the development. It is submitted that common agricultural practice today is to maximise the usage of lands and hence, all boundary ditches are trimmed back to achieve this.

6.3.2.3 The topography of the area is such that the elevation of the site is similar or to that of the adjoining fields and roads or in some cases the site is lower than the adjoining lands, which would increase visibility.

6.3.2.4 The coastal location, in close proximity to Kilmore, is likely to hinder plant growth.

7.0 Assessment

7.1. It is considered that the main issues arising from the appeal are as follows:-

- Planning policy and need for the development
- EIA screening
- Visual amenity and landscape character

- Glint and Glare
- Residential amenity
- Traffic and access
- Drainage
- Cultural Heritage
- Ecology
- Appropriate assessment

7.2. Planning policy and need for the development

7.2.1 The imperative at international and national levels to urgently and strenuously combat climate change is consistent with the identified need for additional renewable energy development. Renewable energy schemes are clearly supportive of the goals to reduce global dependence on fossil fuels and cutting GHG emissions. The national objective, contained in NREAP, of achieving 40% of electricity generation from renewable sources by 2020 forms part of the national strategy for meeting our legally binding targets in this respect. Thus the contribution of renewable energy projects, such as that proposed, to achieving the transition to a low carbon future is well established. Solar power is also acknowledged as being capable of being delivered relatively quickly and efficiently without the need for large scale transmission grid infrastructure. Thus it is accepted that the proposed USSPV development, which could contribute up to an estimated17MW of electricity, is a desirable form of development, which is supported in principle in both national and local policy guidance. Notwithstanding the general acceptability of solar power as a form of energy generation, however, the land-use policy framework is poorly developed, particularly in terms of the spatial dimension and there is no guidance on the type of land or landscape which would be most appropriate.

7.2.2 The SEAI document referred to at 5.3 above indicated that by October 2016, 100 planning applications for solar energy development projects had been submitted to planning authorities across the country and that, if implemented, this would amount to 594MW of renewable electricity being generated, encompassing a land area of 1,331.9ha. The first appeal against such a scheme came before the Board in July 2015 and since then, 10 appeals have been decided, all but one of which have been

granted. The decided cases represent 136ha, which it is estimated, could generate up to 60-70 MW of renewable electricity. I note there are 10 further appeals currently with the Board from across the country against solar farm decisions. In Wexford alone there have been three solar farms granted and there are three, (including this one), awaiting decision. Whilst the majority of solar farm developments to date have been medium in scale, (approx. 5MW and occupying 10-20ha), the current proposal at 31.2ha, and that proposed under PL26.247217 at Tomhaggard near Rosslare (at 89.46ha), are significantly greater in terms of both land area and generating capacity, (unspecified but estimated to be in the order of 17MW and 45MW, respectively).

7.2.3 It is clear, therefore, that there has been a sudden wave of proposed solar power development within the last two years and that both the volume and scale of such development is increasing. At present, however, there is no spatial strategy or strategic plan to direct such important renewable energy development to appropriate locations at either a national, a regional or a local level. Although the majority of proposals have tended to occur along the south coast, with a particular concentration in Wexford/Waterford, there is recent evidence of development proposals in the midlands and the west. For example, the Board recently granted permission for a development in Longford (246850), which indicates that locations other than the south may be viable for solar power investment. The most recent intake of appeals on this subject matter is also represented across the country with appeals in Cork, Kerry, Clare, Kilkenny and Wicklow, in addition to Wexford and Waterford.

7.2.4 It is noted that to date, the Board has not considered the absence of a land-use policy framework to be an impediment to granting permission. The Inspector in the Tintern case, (PL26.244351, first grant of permission by the Board in July 2015), did not consider the proposal to be premature in the absence of such a policy framework. He considered that

> "with the advent of any new type of development, it is generally the case that the case for bespoke planning guidance can only be justified once there is a critical mass of such development in existence and an on-going need for such guidance in the medium term."

It is clear, however, that momentum has been building in the meantime and that a continued acceptance of development proposals on an ad hoc basis is likely to result in an incoherent and piecemeal approach to solar power development, which would not be in accordance with the principle of proper planning and sustainable development.

7.2.5 The SEAI document (3.2) provides an overview of policy and practice elsewhere including countries with established markets such as the USA, the UK and Germany, which have developed strategies and land-use planning policies. It is clear that the issue of the perceived loss of good quality agricultural land is to the forefront of concerns in these jurisdictions. The guidance contained in, the UK's PPG and the BRE document (referred to at 5.3 above), each indicates that solar power development should ideally be directed to previously developed land, brownfield land, contaminated land, industrial land or agricultural land which is not classified as the best or most versatile land. Agricultural land is classified with the most productive at Grade 1 and the most marginal at Grade 5. Due partly to concerns about the dependence on the UK on imported foods, the UK Government has stated that solar farms should be directed to lands graded 3b – 5. California too seeks to minimise solar power development on active farmland and Germany has withdrawn financial support for larger schemes partly on the basis of the need to balance the land use needs of agriculture and forestry against renewable energy development.

7.2.6 The SEAI document indicates (1.3.3) that deployment of SPV systems has been actively pursued on a variety of building types in non-domestic and non-agricultural settings (e.g. Dublin Airport Authority, Kingspan insulation plant and AIB Bankcentre). It strongly recommends that national, regional and local policy should set out clear policy objectives which support USSPV development, but that it should not be unduly restricted, and that land-use policy "should not prioritise the delivery of development of utility scale solar PV on lands with lower agricultural value". It is recommended that plans identify the type of location that is particularly suited but that it should not be directed away from good quality agricultural land. Regardless of the policy framework that will ultimately be pursued, it is clear that there is broad cross-sectoral support for the adoption of consistent planning policy approaches, which is seen as key to the realisation of community acceptance and to providing greater certainty to both developers and communities.

7.2.7 The proposed development is sited on two large parcels of land which are currently in productive agricultural use. The North Array consists of two large fields under tillage and two large fields used for grazing. The South Array comprises a group of four fields under pasture and a further four fields under tillage. The site forms part of operational farms engaged in productive agriculture in the midst of a landscape that is characterised by high quality farmland. The proposed solar power development raises significant concerns regarding the loss of, and potential sterilisation of, a sizeable portion of productive lands, as well as the fragmentation of farms. Given the sudden and rapid escalation in the number and scale of such developments, particularly in this part of Wexford, it is considered that there is also potential for a cumulative effect on the viability of agriculture in the area, which could undermine the national objectives of the agri-food industry as expressed in the government's Harvest 2020. Thus it is considered that a national strategy is required due to the competing objectives of agriculture and renewable energy.

7.2.8 The applicant submits that the land will remain in agricultural use (5.3.1 Planning report) "with farming continuing between and underneath the solar PV panels, if required, by

- Grazing small livestock such as sheep and free-range poultry;
- Cultivating high value fruits and vegetables, such as asparagus and pumpkins or non-food crops such as lavender;
- Sowing of wildflower seeds and bee-keeping."

This appears to be an aspirational range of options and no commitment to any future productive use of the lands is given. Furthermore, there is no evidence regarding the suitability of the soils, climatic conditions etc. to any of these options, or to the relative productive value of the lands following the construction of the development. The temporary nature of the use is also part of the justification for the development, but as this is likely to involve a period of up to 30 years, it is considered that this is of medium duration.

7.2.9 At a local level, the Wexford CDP 2013-2019 is supportive of renewable energy in general, and solar power, in particular and acknowledges the geographical advantages of the area in this respect. However, it does not contain any specific policies in relation to large scale solar power schemes. Objective EN10 seeks to

prepare a Renewable Energy Strategy within the lifetime of the Plan. It is noted that the Development Management Guidelines (DoELG 2007) indicate (7.16.1) that where the issue of prematurity arises because of a commitment in a development plan to prepare a strategy, this should only be used as a reason for refusal where there is a realistic prospect of the strategy being completed within a specific time frame. It is considered that given the stated objective to prepare a Renewable Energy Strategy by 2019, the fact that the P.A. has already adopted a Wind Energy Strategy (2013-19), and the large number of applications coming before the P.A., there is a reasonable prospect that such a strategy will be adopted in the near future.

7.2.10 In conclusion, it is considered that given the escalating number and scale of solar farm development proposals and the absence of any current national, regional or local spatial strategy or land-use planning guidance, a grant of permission for the proposed development would be premature pending the preparation and adoption of a renewable energy strategy, in which solar energy development is specifically addressed, by the planning authority for the area.

7.3. EIA Screening

7.3.1 The applicant submits that the proposed development does not fall within a class of development requiring EIA under either Part 1or Part 2 of Schedule 5 of the planning and Development Regulations 2001 (as amended), and as such, the requirement for EIA can be screened out. This approach is generally consistent with that taken by the Board in previous decisions and by the planning authority in this case. It has also been established in previous decisions that a solar power generation facility, such as that proposed, does not qualify as subthreshold development. This is where a project listed in Schedule 5 Part 2 does not exceed a quantity, area or other limit specified in respect of the relevant class of development but would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7 of the Regulations.

7.3.2 I would agree that the solar farm does not fall within any of the categories of installations for the production of electricity, i.e. Class 2(a) Thermal power station (300 megawatt output threshold); Class 3(a) Industrial installation for the production of electricity, steam and hot water not included in Part 1 (300MW output threshold); Class 3(h) Installation for hydroelectric energy production; Class 3(i) Wind farm.

Class 3(a) relates to combined heat and power plants and the other two classes are not relevant to the current case. However, the proposed development includes the construction of 4,456 metres of internal service trackways and associated drainage infrastructure and the upgrading of 115m of existing trackway. Class 10 (dd), Infrastructure Projects, relates to "all private roads which would exceed 2000 metres in length." The access tracks are required mainly for the purpose of constructing the solar farm and would be used thereafter for maintenance purposes. It is considered, therefore, that such tracks are intended for the conveyance of vehicles and people, (save for the construction and maintenance purposes referred to above), and as such, would not fall within the definition of a road under the Roads Act 1993.

7.3.3 Notwithstanding the applicant's submission that the proposed development is not of a class of development requiring EIA, it has carried out an assessment against the criteria contained in Schedule 7 of the Regulations in order to demonstrate that there are no significant impacts associated with the proposed development in isolation or cumulatively with other projects or proposals in the area. It was concluded that having regard to the characteristics of the proposed development, the location of the proposed development and the characteristics of the potential impacts, the proposed development would not meet the requirements of Schedule 7. I would agree with this assessment and conclude that the proposed development does not require an Environmental Impact Assessment.

7.4. Impacts on visual amenity and landscape character

7.4.1 The Visual Impact Assessment considered that the receiving landscape is characterised by an open, flat and fertile patchwork farmland with mature but managed hedgerows and mainly broad leafed tree lines. The generally flat landscape is gently undulating with enclosed views in and around the sites. There are scattered dwellings and farmhouses as well as small villages, a railway line and a windfarm within 2km of the South Array. The sites do not fall within any areas designated as 'Landscapes of Greater Sensitivity' and there are no scenic routes or views or prospects listed in the Development Plan. It was found that although there are some protected structures and features of architectural interest (listed in NIAH), including the railway bridge at Ralphtown, these are generally well screened by existing trees and hedgerows. The site is located in the 'Lowlands' Landscape Character unit, which is characterised by gently undulating lands with higher levels of

population and more intensive agriculture due to the high quality and fertility of the soils. It is described as a landscape with a higher capacity to absorb development without causing significant visual intrusion.

7.4.2 The potential operational impacts on the landscape character and visual amenity were considered to principally comprise of the introduction of a strongly geometric and engineered appearance across the existing field pattern. Construction impacts would be substantial but would be temporary (4 months) and localised in nature. The existing hedges would not be affected and as such, the negative impacts would be minimised. A distinction was drawn between impacts on the immediate area and the wider landscape. It was considered that the broader landscape generally has the capacity to absorb the development, that there would be no significant change to the landscape character in the long term. However, it was acknowledged that there would be some localised residual landscape and visual impacts, but that these would dissipate to slight to imperceptible impacts over a short distance and as the proposed planting established and matures.

7.4.3 The South Array (Ralphtown) is generally well screened from the public road, from the adjoining settlement and from houses by mature hedging. Although this site is quite close to Baldwinstown village and to a number of protected structures, I would agree that the proposed development would be visible from very few vantage points, the main one being the railway bridge which crosses the R736 and some adjoining houses. Views from this location on the R736 would be quite extensive, but would be intermittent except when standing on the bridge. Uninterrupted views would be available of two of the large fields from the bridge but the remainder of the southern section of the South Array would be screened by the extensive mature vegetation along the railway line. The northern section of the South Array would be largely shielded by the roadside and field hedging. I would agree that the impact on the landscape character and visual amenity of the South Array would not be significant.

7.4.4 The North Array (Newtown) is removed from the public road by one field depth, (approx. 60-100m) but extends for a considerable distance parallel to the road, (approx. 500m). The effectiveness of the hedgerow screening at present is patchy as the hedgerows are low or intermittent. As such, the fields within which the solar farm panels would be placed are highly visible along this stretch of road (L7062). There are a number of houses along the public road, and along a further road to the north

of the site, with further dwelling houses scattered to the east of the site. The topography of this site is gently undulating. The applicant has acknowledged that in the absence of mitigation, negative impacts here would be significant to moderate.

7.4.5 The proposed landscaping mitigation measures include retention and enhancement of existing hedges and reinforcement of these hedges with deer proof fencing and additional hedgerows. It is proposed to restore and reseed any areas disturbed during construction with agricultural meadowland grass for use as pasture for sheep. Native hedges would be planted on the outer side of the security fencing with extra robust screens provided near residential properties. It is considered that the proposed landscape mitigation would provide adequate screening, provided that the landscaping is implemented in a timely manner, in accordance with best practice, and maintained to ensure an effective screen is established. It is acknowledged, however, that it would take some time for the screen planting to become established. It is further noted that the type of solar technology to be used involves PV panels with a low profile and lower reflectivity than used in other technologies. Thus it is considered that although visibility of the proposed solar panel arrays would not be eliminated, the localised impacts would be adequately mitigated in the medium to longer term.

7.4.6 The Ralphtown and Newtown sites are separated by a distance of approx. 900m. Cumulative impacts were considered by the applicant, but were largely confined to simultaneous views of both arrays and of the solar farm with the Ralphtown Wind Farm to the south. However, the ‘sequential effects on visibility’ have not been addressed. The SEAI document describes this as occurring when “an observer moves through the landscape and sees two or more schemes. Common routes through a landscape can be identified as ‘journey scenarios’ and proposals impact on them can be assessed.” The cumulative impacts considered by the applicant do not include any analysis of the sequential effects with regard to the permitted solar farms and those for which planning applications have been submitted.

7.4.7 It is considered that the introduction of large utility scale solar farms into a rural, agricultural area such as this will inevitably create a substantial degree of change to the landscape. The applicant has acknowledged that “it can increase the perceived human influence on the landscape and erode the intrinsically rural character of the landscape”, and that reflections from the sun may be experienced by up to 13

dwellings in the vicinity of the site, (LVIA 4.1). Notwithstanding the potential for successful mitigation of localised visual impacts and the general absorption capacity of the landscape character area, I am not satisfied that the proposed development would not, because of its scale and the sequential visual effects, in combination with other permitted and/or proposed solar farms in the wider landscape, introduce a substantial magnitude of change to the character of this landscape which would be of medium duration.

7.4.8 The potential for these USSPV developments to incrementally alter the character of the landscape is a material consideration and could give rise to cumulative impacts which would, in due course, adversely affect the visual amenity and landscape character of the area. Thus, in conclusion, it is considered that the grant of permission for this proposal, in the absence of any strategic or policy guidance on the most appropriate locations for such development, would be premature and would be contrary to the proper planning and sustainable development of the area.

7.5. Glint and Glare

7.5.1 Glint and glare from reflected surfaces is a recognised issue in relation to solar farms. Glare is described in the submissions as reflected diffuse light, which is not a direct reflection of the sun, but a reflection of the bright sky around the sun. Glint is defined as either specular (concentrated) reflection or diffuse reflection of sunlight and is the principal element of nuisance. It is pointed out in the applicant's submissions that solar panels are designed to absorb light in order to convert it to useful energy, rather than reflect it, as reflected light is wasted. For glint and glare to occur, however, the sun must be shining. Most reflections are skyward due to the angle of orientation, with reflections to the east in the evening and to the west in the morning, when the sun is low in the sky, and are generally confined to the months of March to September.

7.5.2 The applicant submitted a Glint and Glare Study with the application (PagerPower), which identified potential receptors within 1 km of the site, undertook geometric reflection calculations and compared the results to impacts from other sources in the environment. A further Glint and Glare Study was submitted with the grounds of appeal (AARDVaRC), which was based on further analysis of the PagerPower desk top study but also included a site survey. There were three types of receptors

identified, namely residential, road users and railway users. The PagerPower study found that of the 114 dwellings within the 1km study area, there was potential for minor glint and glare impacts on up to 13 of these. The dwellings were located as follows

D17, D18, D19, D20	Located along local road to west of North Array (approx. 100m from development boundary.
D63	Located immediately to the west of the northern section of the South Array
D64	Located on eastern side of R738 to N of Baldwinstown, SE of the South Array
D65	Located on western side of R738 (opposite D64) N of Baldwinstown, directly to the E and S of the South Array
D67	Located to south of D65 on western side of R738, N of Baldwinstown, to the E of the South Array
D95-D99	Located to the NW of the crossroads in the centre of the village of Baldwinstown, to the SE of the South Array.

7.5.3 The PagerPower study concluded that the effects would last up to 15 minutes per day under particular conditions, but that a clear view of the panels would be required on a sunny day, during months when it was geometrically possible. However, it was concluded that with the proposed screening, there would be no significant impacts on residential amenity. The conclusions for the road and rail receptors were that there would be no significant impacts as only short stretches of road/rail would be affected, that the effects would be fleeting and in most cases outside of the direction of travel. The reflective effects were considered to be similar to many other sources commonly found in the environment, such as still water. It was also considered that additional screening, as proposed, would further reduce any such impacts.

7.5.4 The Aardvarc Report considered that the only dwellings of concern in relation to the South Array were D63, D64, D65, as D67, D95 and D97 were ruled out on the basis of existing screening or absence of windows to habitable rooms (D95). D65 was considered to be the most exposed, but only on the first floor, albeit from all west facing windows. D64 was considered to potentially have some views through

the gaps in the hedges and D63, (although closer to the development than D65), was noted as being occupied by one of the parties involved with the solar farm project. In relation to the North Array, the dwellings with most potential for impact were identified as D17-D22, with D19 (most exposed) being the best representation for analysis as it is centrally located along the local road facing the development.

7.5.5 Discussion of the impacts on D65 and D19 concluded that the impacts on these dwellings, (and those dwellings identified as having similar exposure levels), would be Level 3 : Negligible, with the remainder of dwellings having a Level 2 : Nil impact. The impacts on road and rail receptors were also found to be negligible or nil and that driver distraction would be negligible.

7.5.6 The planning authority had decided to refuse permission on the grounds of the effects of glint and glare on residential properties in close proximity to the development and on users of the surrounding road network. The Area Planner had accepted that the effects of glint and glare could be addressed by means of mitigation in respect of most cases, but remained concerned that it could not be ruled out in respect of many dwellings or the road and rail receptors. The A.P. had singled out one property, D65, as being most at risk and considered that the impacts on this dwelling would be unacceptable and not possible to mitigate by means of screening. Concern was also raised regarding the ability to effectively screen road and rail receptors. The P.A. in its response to the grounds of appeal, (18/10/16) was not satisfied with the further information and analysis provided in the AARDVaRC report. It highlighted the comment in the AARDVaRC report that

> "if any issues become apparent after construction effective mitigation could be quickly installed e.g. a low cost canvass screen could be easily erected in appropriate areas, with less visually intrusive fencing, hedges and/or trees planted to replace them in the longer term" (AARDVaRC 4.2.3.1).

The P.A. considered that short term mitigation would neither be possible nor effective, either initially or retrospectively.

7.5.7 Observations on the grounds of appeal, McIntyre (D65) and Rochford (D19), also raised concerns regarding the visibility of the development and glint and glare, in terms of both the North and South Arrays. The Rochford observation included a set of photographs taken from various points in the vicinity of the North Array in support

of the contention that the site is highly visible and that the existing vegetation is ineffective in terms of screening.

7.5.8 From my site inspection I would agree that, in terms of the South Array, D65 and D63 would be particularly exposed, and would not be easily mitigated by means of vegetative screening in the short term. It is acknowledged that D63 is occupied by a party involved with the project, but D65 would have at least 5 no. west-facing first floor windows overlooking the development. The reflections would be possible for up to 14 minutes (continuously) in the evenings (around 7pm) between March and September. The AARDVaRC analysis is that this would be no worse than the glare from the sun shining on a wet flat roof and that the sun would be shining through the windows at the same time, adding to the illumination of the room. However, I estimate the surface area involved to be approx. 67,500 sq.m, (southern section of South Array 250m x 270m), which would be sited approx. 130m to the west of the rear wall of the dwelling. Thus the comparison to a wet flat roof is somewhat unrealistic, in this instance. It is considered that effective screening could undoubtedly be provided in the longer term by means of appropriate tree planting, (which would have to be sufficiently tall to create a screen), but this would not be achievable in the short to medium term. Drawing 6271-300 and 6271-301 (attached to LVIA) indicate that Treatment B would be provided here. I note, however, that this mitigation measure does not specify tree planting. The Board could consider attaching an appropriately worded condition to any permission, but the concern remains regarding the time it would take for such screening to be established.

7.5.9 In terms of the North Array, I would agree that the site is quite visible from the adjacent roads to the west and north and from several properties in proximity to the site. It is noted that the houses to the north would only have views of the undersides of solar panels, and as such, would not be affected by glint and glare. The main impact would be on Dwellings D17-D22, which lie alongside the local road to the west, (N-S). D19 is centrally located and is a 2-storey Georgian style farmhouse with uninterrupted views over the countryside to the east. It is considered that, in due course, it would be possible to mitigate the effects on these houses to the west by the proposed screen planting, but this would require much more substantial and robust hedgerow planting than exists at present. The BSM Drawing Nos. 6271-300/301 indicate that a substantial screen (Treatment A) would be provided

comprising screen planting and a fence inside the existing hedge. It is likely, however, that this screen planting would take some time to establish and the fence would be a mesh type deer proof design, which would be unlikely to block reflections on its own, in the absence of robust hedging.

7.5.10 I would agree with the analysis of the impact on rail receptors and road receptors in respect of the R736 and R738 contained in the AARDVaRC report (4.2.2.1/2/3), which concluded that the impact would be negligible or nil. The analysis of the impact on users of L7062 indicates that northbound drivers would have "fairly clear views of solar panels" in the morning (around 7am) between March and September. The views would be up to 100m to the right of the driver, (reducing to 60m further to the north), with very low and intermittent hedging, at present, providing ineffective screening. It is not entirely clear whether screen planting would be sufficiently effective to address glint and glare across the width of the fields. Given that the site extends for over 500m parallel with this stretch of road, it is considered that this would result in an unacceptable traffic hazard.

7.5.11 In conclusion, I would agree with the planning authority's conclusion that the proposed development is likely to result in glint and glare which would adversely affect the residential amenities of properties in close proximity to the site and would affect road users on the L7062, which would give rise to a traffic hazard.

7.6. Residential amenity

7.6.1 In addition to glint and glare impacts discussed above, issues relating to noise, security measures, health impacts and property values were raised by objectors in relation to the operational phase. As the proposed solar arrays are to be static, there are no predicted noise emissions from the solar panels. The noise emissions from the associated electricity infrastructure would not be of any significance. The security measures include CCTV cameras, lighting and fencing, which are considered to be a necessity in terms of securing the site. There is little information provided regarding these measures, although the grounds of appeal state that lighting and the cameras would be directed away from residential properties. It is considered, that should the Board be minded to grant permission, that a condition should be attached to any such decision requiring further details to be submitted to the planning authority prior to commencement of development. I am not aware of any evidence that USSPV

schemes give rise to adverse public health impacts or have any significant impact on property values.

7.6.2 The construction phase is likely to give rise to noise impacts from excavation, piling, deliveries and movement of soil and materials etc. I would agree with the conclusions of Section 9 of the Planning Report (Fehily Timoney) that provided the proposed mitigation measures, which are based on best practice methodology, are implemented in respect of construction and decommissioning phases, the impact on residential amenity would not be significant and would be for a short duration (approx. 4 months).

7.7. Traffic and access

7.7.1 It is proposed to access the South Array via a new entrance from the R738 close to the south-eastern corner of the northern section of this array. The proposed entrance would be on a relatively straight stretch of road and the submitted drawings indicate that the required sightlines can be achieved. Access would be gained to the North Array from the L7062 by means of the existing laneway to the farmhouse/yard. It is proposed to improve this entrance to meet the required sightline standards. The proposed delivery route is not expected to necessitate any road improvements along the route. It is stated (8.3 of the Fehily Timoney Planning Report) that a detailed Construction Traffic Management Plan will be prepared prior to the commencement of development. It is considered that should the Board be minded to grant permission, a condition requiring this plan to be agreed with the P.A. prior to commencement of development should be attached to any such decision.

7.8. Cultural Heritage

7.8.1 An Archaeological Assessment was carried out by John Cronin on behalf of the applicants. The site does not contain any recorded archaeological monuments or zones of notification. It was concluded that the proposed development would not impact on any recorded or protected archaeological heritage but that there was some potential for ground works to affect unrecorded sub-surface archaeology. It was recommended that a programme of pre-development archaeological testing be carried out by a suitably qualified archaeologist. It is considered that should the Board be minded to grant permission, that a condition to this effect should be attached to any such decision.

7.8.2 There are three protected structures listed in Wexford County Development Plan within 250m of the South Array. These are listed in Section 10.1 of the Fehily Timoney Planning report. I would agree that the proposed solar farm is unlikely to adversely impact the setting of these protected structures by reason of the distances involved and/or screening by means of existing vegetation.

7.9. Drainage

7.9.1 The existing and proposed drainage systems are set out in Sections 6.2 and 6.3 of the FT Planning Report which accompanied the planning application. It is noted that the existing grass covered areas will only be marginally reduced, the additional impermeable area due to the development would be minimal (approx. 3%) and that it is not anticipated that there would be a need for any significant drainage systems. It is stated that there would be no disturbance to the existing drainage regime and that mitigation measures will be provided during construction (set out in Section 6.5 of the Planning Report), mainly in the form of silt protection controls.

7.9.2 A site specific flood risk assessment was carried out in respect of the proposed development. It is noted that areas to the west and to the east of the site are subject to flooding, along the route of two watercourses, the Cleristown Stream (to east) and a tributary of the Longbridge River to the west, (part of which flows through the SW corner of the South Array. The Cleristown Stream forms the existing eastern field boundaries of the North Array, but is outside of the site boundary. It is stated that any critical infrastructure would be located outside of the floodplain, but some of the solar panels would be within the floodplain. No part of the site is within Flood Zone A for fluvial flooding, but a small part of the South Array is within this zone for pluvial flooding. However, the solar panels would be positioned above the predicted flood level and are considered to be 'water compatible'. There is a set of mitigation measures proposed in 3.5 of the FRA. It is considered that these measures, together with the avoidance of Flood Zone A, are likely to adequately mitigate any flood risk to the proposed development.

7.9.3 The Flood Risk Assessment also examined downstream impacts and cumulative impacts. It was found that the solar panels would not increase surface water run-off and that the hardstanding around the electrical infrastructure would increase run-off minimally. In light of the design of the proposed development, with the proposed

mitigation measures, it is considered that the proposal would not result in any significant increase in downstream flooding, (or in any cumulative impacts), or in contamination of the receiving waters downstream..

7.10 Ecological Impacts

7.10.1 The Planning Report includes an Ecological Assessment comprising a desk top study and a field survey carried out on 25th May 2016. In general, the habitats reflect the intensively farmed nature of the area, with improved grassland and arable crops dominating as well as highly maintained hedgerows. There are no Annex I habitats and 4 habitats were identified as key ecological receptors. These were Hedgerows, Treelines, Drainage ditches and Lowland Depositing Streams. Ballyteigue Burrow pNHA is 1.25km to south-west and is also designated as an SPA, and SAC and a Nature reserve. It was noted that there is a hydrological link to Ballyteigue Burrow SPA and SAC via two separate pathways. The link via Ralphtown Stream is 5.84km but is stagnant in places and heavily vegetated. The link via Cleristown Stream is 8.56km but this is a faster flowing stream and is therefore considered to have a greater potential for conveyance of silt laden run-off. An NIS has been submitted which addresses these issues. The potential for indirect habitat loss and/or alteration to habitats from run-off or discharge of pollutants is noted as being a short term slight impact and mitigation measures are proposed accordingly.

7.10.2 22 no. species of birds were recorded of which 4 were Red listed and 5 amber listed, only two of which breed on site (Meadow Pipit and Yellowhammer). Although it was noted that there would be a slight impact on Yellowhammer due to the removal of arable crops, an important source of food, there are plenty of similar habitats in the area. No evidence was recorded of Whooper Swan or Pergrine Falcon within the study area. The DAU had expressed concern (3.3.1 above) that it was not clear from the study whether Whooper Swans feed on the site as it was visited during the summer. I note however that the report includes a report from a local ornithologist which stated that although Whooper Swans do frequent fields approx. 4km to the Southwest of Baldwinstown, he had no knowledge of these birds frequenting the area around the site. Furthermore, he stated that the known, long-established flight paths for these birds is to the east of Tacumshin Lake, which is 3km to the south at its closest point.

7.10.3 In terms of impacts from the operational phase on birds, it is noted that international research was quoted in terms of the likely effects on birds overflying the area. The Ecological Assessment noted that the design of the solar farm is such that there are gaps between the panels (typically 3.5m), and that the grid like panel design means that it does not consist of a continuous single reflective plain/surface but is broken up by intermittent strips of vegetation and the outline of the panels. As a result, it is submitted that wildfowl would be unlikely to mistake the standing arrays for a waterbody and risk collision by attempting to land. Furthermore, glint is unlikely to be an issue in the winter months, when the wild fowl frequent the area. This issues is discussed further in Section 7.11, Appropriate Assessment.

7.10.4 A known bat roost of Leisler's bats is present at Baldwinstown, but is unlikely to be affected by the proposed development. I note that the DAU had expressed a concern that it was unclear whether any roosts had been found on the site. However, the impact on bats would be confined to the construction phase, as the operational phase is likely to result in enhanced foraging and commuter routes. I would agree with the P.A that appropriately worded conditions could be attached to any permission to ensure that no bat roosts are disturbed.

7.10.5 It is considered that subject to conditions as outlined above, the proposed development is unlikely to result in unacceptable impacts on ecology apart from the issue of water quality, which is considered in more detail in the following section.

7.11 Appropriate Assessment

7.11.1 The sites of the proposed development are not located within any European designated sites. The Appropriate Assessment Screening Report is confined to European sites which are present within 10km of the development site. It identified 7 no. Natura 2000 sites within this radius, four of which are SPAs and the remainder are cSACs. Having regard to the nature of the development, a 10km radius is generally considered to be appropriate, with one exception, that is in relation to bird flight paths. I note that the DAU in its pre-application correspondence (30/06/16) with the applicant stated that whilst a buffer distance of 15km is normally adequate, this may not always be appropriate, such as where bird flight paths are involved. In such instances, it is stated that the impact may be on an SPA which is greater than 15km away. It also pointed out that it is important that bird migration routes are considered

as well as routes of birds travelling on a daily basis between roosting and feeding areas.

7.11.2 The site is centrally located within a ring of SPAs and SACs (see Fig. 5.1A of the AA Screening Report). The Planning Authority report (AA) noted that there are 15 no. European sites within a 15km radius, seven of which are SPAs. The sites which were identified within the 10km radius in the Stage 1 report are as follows:

7.11.2.1 **Wexford Harbour & Slobs SPA (004076) 10km to NE of site**

The 'Slobs' are two flat reclaimed areas of farmland, (mainly arable and pasture grassland), which form the lowest part of the estuary of the R. Slaney. The site is internationally important for several species of waterbirds and because it regularly supports 20,000 waterbirds. It is described in the site Synopsis (Appendix 3 of NIS) as one of the top three sites in the country for the number and diversity of wintering birds and is one of two most important sites in the world for Greenland White Fronted Goose. The Qualifying Interests include Berwick's Swan, Whooper Swan, Hen Harrier, Golden Plover, Little Tern, Bar-Tailed Godwit and the Greenland White Fronted Goose.

7.11.2.2 **Tacumshin Lake SAC (000709) 7km to SE of site**

Tacumshin Lake SPA (004092) 7km to SE of site

Tamuschin Lake is a shallow coastal lagoon on the south coast of Wexford and is described in the Site Synopsis for the SPA as one of the most important ornithological sites in the country, with an "exceptionally diverse" waterfowl population, which supports large numbers of birds throughout the year. It is stated that it is the principal roost for internationally important populations of Whooper Swan and Bewick's Swan, both of whom feed on improved grassland in the vicinity. The site is also known for its summer visitors and a range of passage waders, and many of the species of bird feature on Annex 1 of the Birds Directive, (Whooper Swan, Bewick's Swan, Golden Plover, Ruff, Wood Sandpiper and Marsh Harrier).

7.11.2.3 **Ballyteigue Burrow SAC (000696) 4.25km to SW of site**

Ballyteigue Burrow SPA (004020) 4.25km to SW of site

Ballyteigue Burrow comprises a sand and shingle barrier beach, approx. 8km in length and an estuary of the Duncormick River. It is located between Kilmore Quay

and Cullenstown. The principle ornithological importance of the SPA is wintering waterfowl with an internationally important population of Brent goose and a further six species of national importance, three of which are Annex 1, (Golden Plover, Bar-tailed Godwit and Little Tern). The SAC is recognised as one of the most impressive shingle-based dune systems in the country and is of major ecological value for its range of good quality coastal habitats, several of which are Annex 1. The SAC is host to a range of Red Data Book plant species and is also known for the rare Perennial Glasswort. The estuarine habitats provide feeding and roosting areas for the waterfowl species, though a lot of the birds also feed on the intensively managed lands of the adjacent polders, (Site Synopses, App. 3 of NIS).

7.11.2.4 **Saltee Islands SAC (000707)** **6.5km to SE of site**

Saltee Islands SPA (004002) **6.5km to SE of site**

These are two islands, the Great Saltee and the Little Saltee, approx. 4-5km off the south Wexford coast. They are internationally important for holding over 20,000 breeding seabirds and two further species, Peregrine and Chough. The site is of high conservation importance for several habitats, including Annex 1 habitats.

7.11.3 There are eight further Natura sites within the wider 15km radius listed in the P.A. AA screening report, which include three additional SPAs, which are

7.11.3.1 **Bannow Bay SPA (004033) – Located to SW**

Bannow Bay is a large, very sheltered estuarine system with a narrow outlet to the sea on the south Wexford coast. This site is described as an excellent example of an enclosed estuarine system (site synopsis appended to this report). It supports an excellent diversity of wintering waterfowl, being one of the most important in the south-east. It supports internationally important populations of Light-bellied Brent Goose and Black-tailed Godwit.

7.11.3.2 **Keeragh Islands SPA (004118) - Located to SW**

The Keeragh Islands are two low-lying islets located just over 1km offshore from the south Wexford coast. The site is a SPA of special conservation interest for the nationally important species of breeding Cormorant.

7.11.3.3 **Lady's Island Lake SPA (004009) - Located to SE**

Lady's Island Lake is situated on the east coast of Wexford and comprises a shallow, brackish coastal lagoon separated from the sea by a sand and shingle barrier. It is described as an excellent example of a sedimentary lagoon with a sand/shingle barrier, being the largest and best example of such a lagoon in the country. It is a SPA for the following species: Gadwall, Black-headed Gull, Sandwich Tern, Roseate Tern, Common Tern and Artic Tern. It is described in the site synopsis (appended to this report) as of ornithological importance for both breeding and wintering birds, and is also an important stop-over point for passage migrants and is one of the most important ornithological sites in the country.

7.11.4 Copies of the Site Synopses for the above sites are appended to either the applicant's NIS or to this report.

7.11.5 It can be seen from the above summaries that the area in general, and the SPAs located within 15km radius of the site in particular, are of significant ornithological interest, particularly for wetlands and waterbirds and especially during the winter months. Many of the sites support an excellent diversity of wintering waterfowl and some are considered to be amongst the most important ornithological sites in the country for breeding and/or wintering birds. The Stage 1 Screening report screened out all Natura sites at a distance beyond 10km and all SACs and SPAs except for Ballyteigue Burrow SAC and SPA, due to the fact that there is a hydrological link to the site of the proposed development. However, the issue of bird flight paths over the site was ruled out as a source-pathway-receptor on the basis of a statement submitted by a local ornithologist, (Jim Hurley), on behalf of the applicant. The statement (Appendix 2 of the NIS) also addressed the issue of information on any usage of the site by wild birds, especially Whooper Swans, waders and wildfowl, and the risk, if any, posed to them by the proposed development. The statement was based on Mr Hurley's "long-term experience of the area and researches of other sources of information".

7.11.6 Mr. Hurley made the following observations:

- Whooper Swans do frequent fields in the townlands of Inish and Ballyteigue Slob, 4km to the south-south-west of Baldwinstown, but their long-established flight paths are to the east to Tacumshin Lake and from there to the north to

Wexford Slobs. At their closest point, these flight paths are over 3 km south of the closest point of the development sites.

- On the south Wexford coast, waders and wild fowl normally frequent the coastal wetlands and their flight paths are generally east-west, and several kms distant from the development site.
- Mr Hurley visited the site on 29th June 2016 and conducted a walk-over survey. Whilst it is acknowledged that the month of June is not a time to locate wintering fowl, he states that he did not find any evidence that either site is likely to attract Whooper Swans, waders and wildfowl and there was no evidence of any significant numbers of any species of wild bird.

On the basis of the foregoing, Mr. Hurley concluded that it is unlikely that the proposed development, comprising the erection of solar array structures, would pose any risk to wild birds.

7.11.7 The pre-application consultation between the applicant and the Dept. Arts, Heritage and the Gaeltacht (30/06/16) is included in Appendix 3 of the NIS. I note that advice was given regarding the need for two-year bird surveys, which should be referenced back to overall populations and their dynamics and that bird migration routes and routes between roosting and foraging areas should be considered. It was also pointed out that apart from collision risks associated with overhead cables, “solar farms can be mistaken as water by birds and aquatic insects and this issues needs to be addressed.” The DAU raised concerns in its submission to the P.A. (August 2016) that it was unclear whether Whooper Swans do or do not feed on the proposed development site.

7.11.8 I would agree that some uncertainty remains regarding this issue as the information submitted by the local ornithologist is based on a single walk-over survey, (with no information regarding methodology etc.), and no evidence is provided to corroborate the statements regarding the location of the flight paths overhead. It is considered that the significance of the use of the site for feeding is unlikely to be great in terms of displacement and availability of alternative feeding areas, given the nature/use of the site, but could be of some concern in terms of any flight paths overhead combined with availability of feeding areas. As discussed at 7.10.3 above, the applicant has dismissed the potential for the proposed solar arrays to be mistaken by

birds as a water body, due to the design with intermittent gaps, which reduces the homogeneity of the surface area. Notwithstanding this, it is considered that as this issue has been screened out on the basis of poorly substantiated scientific knowledge, (i.e. one walk-over survey in summer and anecdotal evidence regarding flight paths), the Board may wish to seek further information on this matter, particularly in terms of the potential for in-combination effects with other solar farms in the area on the mortality risk to wildfowl. In the absence of this further information, it is difficult to be confident that impacts on wintering wildfowl, which are qualifying interests for so many European sites (SPAs) within a 15km radius of the site, would not be significant.

7.11.9 A hydrological link was established with two of the European sites, namely, Ballyteigue Burrow SAC and Ballyteigue Burrow SPA. The geographical distance between the project site and these sites is approx. 4.25km. There is a hydrological link (5.84km) with the South Array site via the Mill race crossing, the Longbridge stream and the Bridgetown River, but this is quite a slow moving pathway, which is stagnant in places. There is a further link (8.56km) with the North Array site, via the Cleristown Stream, which is quite fast moving and is considered to be a more significant source-pathway-receptor linkage. The applicant decided that these two sites should be progressed to Stage 2 and an NIS was submitted accordingly. The remaining five sites were screened out. Aside from the issue of uncertainty discussed at 7.11.8 above, I would agree with the screening out of all other sites on the basis of lack of proximity and of a hydrological link.

7.11.10 The potential impacts on the Ballyteigue Burrow sites are considered to be indirect impacts via water quality arising from construction works. The main impacts on water quality were identified as siltation from run-off and/or eutrophication (from fuel spills or contaminated run-off). This could cause degradation of estuarine or associated Habitats which could also result in degradation of habitat quality for wintering waterfowl and birds which are qualifying interests of many of the SPAs in the vicinity of the site. Mitigation measures are set out in Section 6.5 and an outline CEMP has been provided. It is considered that the measures proposed are standard measures based on good practice and published guidelines. As noted in section 7.9 above, the proposed drainage measures are quite limited and it is not anticipated that the existing drainage regime will be significantly altered. I would agree, therefore, that

provided the proposed mitigation measures are implemented to prevent contamination, siltation or sedimentation of any watercourse, the proposed development is not likely to adversely affect the integrity of these two European sites, Ballyteigue Burrow SAC and Ballyteigue Burrow SPA, having regard to these sites' Conservation Objectives.

7.11.11 In conclusion, it is considered that notwithstanding the acceptability of the conclusions reached in the NIS in respect of Ballyteigue Burrow SAC and SPA, the information contained in the Appropriate Assessment Stage 1 Screening Report is considered to be inadequate in respect of the issue of the potential impact on key species (wildfowl) in terms of disturbance (foraging/flight paths) and key density reduction (collision/mortality). As a result, determination on whether or not likely significant effects on a European site within a 15km radius of the site, in view of the Conservation Objectives of the various SPAs within this zone, cannot be reasonably ruled out on the basis of objective scientific information. I do not consider, therefore, that the Board can be satisfied that the proposed development, individually or in combination with other projects, would not be likely to have a significant effect on the integrity of those SPAs whose Qualifying Interests include wintering wild fowl, that is, in respect of the following European sites : Wexford Harbour and slobs SPA, Tacumshin Lake SPA, Ballyteigue Burrow SPA, Lady's Island SPA, in view of the conservation objectives of these sites.

7.11.12 Given that there are other more substantive reasons for refusal highlighted in y assessment, I intend to cite the above as a reason for refusal. However, should the Board be minded to grant permission, it is considered that further information should be required from the applicant to remove any uncertainty as to whether the sites are used by wintering wildfowl and/or whether the flight paths of such birds overfly the sites.

8.0 Recommendation

8.1. It is recommended that planning permission be refused for the reasons and considerations set out below.

9.0 Reasons and Considerations

1. Having regard to –

   (a) The competing policy objectives to increase electricity consumption from renewable energy sources contained in the Government's White Paper The Transition to a Low Carbon Economy (2015), and to promote the continued development of food production and processing contained in the Government's Harvest 2020 and in Policy ED17 of the Wexford County Development Plan 2013-2019;

   (b) The absence of any current strategic or spatial policy guidance to direct such development to the most appropriate locations and the commitment of the planning authority in Policy EN10 to prepare a Renewable Energy Strategy within the lifetime of the current County Development Plan;

   (c) The location of the site in 'Lowlands' Landscape Character Unit which is characterised by gently undulating lands with higher levels of population and more intensive agriculture due to the high quality and fertility of soils;

   (d) To the nature of the lands which form substantial parts of operational farms engaged in productive agriculture;

   It is considered that the proposed development, which would occupy highly productive agricultural lands and, by reason of its scale, extent and strongly geometric and engineered appearance, together with other similar developments in the wider area, would create sequential visual effects and introduce a substantial magnitude of change to the character of this landscape, would undermine the agricultural sector in the area and would result in piecemeal and premature development pending the adoption of a Renewable Energy Strategy for the area. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

2. The proposed development, by reason of its scale and location in close proximity to a number of dwelling houses and to the L7062, would be highly visible and would give rise to glint and glare which would not be likely to be mitigated by vegetative screening in the short term, and would, therefore

seriously injure the residential amenities of adjacent residential properties and would affect road users, which would give rise to a traffic hazard. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

3. On the basis of the information provided with the application and appeal, including the Natura Impact Statement, and in light of the assessment carried out above, the Board is not satisfied that the proposed development, individually or in combination with other plans or projects, would not adversely affect the integrity of the following European sites, in view of the Conservation Objectives of those sites.

   Wexford Harbour and Slobs SPA 004076

   Tacumshin Lake SPA 004092

   Ballyteigue Burrow SPA 004020

   Bannow Bay SPA 004033

   Lady's Island SPA 004009.

Mary Kennelly
Planning Inspector

31st January 2017