

Proposed Solar Power Station, Kells: LA03/2015/0234/F

HAVING REVIEWED THE ENVIRONMENTAL STATEMENT (ES) SUBMITTED BY RPS ON BEHALF OF THE APPLICANT KellsVOCAL HEREBY SUBMIT OUR DETAILED OBJECTION TO THIS PLANNING APPLICATION.

Section 1 Introduction



KellsVOCAL is a community group representing the interests of around 500 people who strongly object to the industrialization of the countryside. Our support is much wider than those directly affected by this totally inappropriate proposal.

Throughout this document KellsVOCAL will analyse each section of the applicant's ES. On receipt of responses from the applicant or consultees we may wish to comment further.

We would advise the Department that it is their duty to independently assess all aspects of all documentation submitted during the planning process. In light of the quality of the ES which is riddled with errors, omissions, inaccuracies and disclaimers, no information, document, or other communication will be accepted by KellsVOCAL without independent assessment.

Whereas mainland UK and countries throughout the EU are now calling for an end to subsidies for renewable energy that is inefficient, ineffective, damaging to the environment, and damaging to the economy we in Northern Ireland have the opportunity to stop the spread of this "Blight on the countryside" before our environment is permanently blighted.

As outline further in this statement, we believe that a Public Inquiry is necessary to properly assess this application. In particular, we believe that this is necessary as a result of a lack of relevant policy in relation to this type of proposal.

Strategic and Regional Policy

The Strategic Planning Policy Statement for Northern Ireland was published in September 2015. We are encouraged by the Minister's forward to this document in which he sets out a commitment to support job creation and aid economic recovery but **not at the expense of compromising environmental standards.**

We have outlined in this response our concerns about the validity of the socio - economic benefits that it is claimed will result from this proposal. (In particular we have provided our own evidence about the reliability and capacity of solar at this site.) These purported socio – economic benefits are not sufficient to outweigh environmental standards by giving permission to place 200,000 solar panels on an area of significant habitat.

We would also like to draw your attention to relevant sections of the **Regional Development Strategy**. This proposal cannot be in general conformity with this document, as:

We have provided evidence to demonstrate that solar is not a reliable source of energy at this site. (See appendix 3) **RG5** of the RDS provides a commitment to “Deliver a sustainable and secure energy supply”. However, it specifies that this should deliver “**reliable** and secure sources of energy”. RG5 also makes it clear that energy infrastructure must be “carefully planned and assessed to avoid adverse environmental effects, particularly on or near protected sites.” Given the archaeological significance of the site and its importance to breeding curlews, the proposal cannot conform to this policy.

Paragraph 4.15, Renewable Energy of the RDS notes that, “Development of Northern Ireland's renewable energy sources is vital to increase its energy security, help combat climate change and achieve the renewable energy targets.” It goes on to list renewable technologies that may help achieve this. There is no reference to large scale solar.

Importantly, RG11 of the RDS notes the importance of the built and natural environment:

“RG11: Conserve, protect and, where possible, enhance our built heritage and our natural environment

The environment, both in terms of natural and built heritage, is one of Northern Ireland's most important assets. Effective care of the environment provides very real benefits in terms of improving health and wellbeing, promoting economic development and addressing social problems which result from a poor quality environment.

It is a basic premise of the environmental justice agenda that everyone should have the right to, and be able to live in, a healthy environment, with access to sufficient and appropriate environmental resources for a healthy life. However, the importance of the environment goes far beyond the immediate benefits it can provide. Northern Ireland's environment is a unique asset; sustaining its landscape and biological diversity also makes a small but significant contribution to protecting a much wider ecosystem which sustains life on earth. We therefore have a responsibility to protect and enhance this asset for the benefit of future generations."

We would ask you to bear in mind the importance of protecting our built and natural environment, as set out in RG 11 of the RDS above in the assessment of this application as well as the points raised by KellsVOCAL throughout this statement.

Yours Sincerely

Ed Crawford
Chair



1. Executive Summary

1.1 Inaccuracies in ES

A number of inaccuracies, typos and omissions are highlighted at *appendix 1* of this statement. Given the extent of the inaccuracies and omissions as set out in *appendix 1*, we have serious concerns that all parties relevant to this application such as statutory consultees and members of the public notified or interested through advertisement, do not have access to ALL the information. The inaccuracies render the ES confusing and incoherent in places and at worst may be misleading.

In order to ensure responses from both consultees and members of the public are based on accurate and consistent information we ask that an amended version of the ES is submitted which addresses these errors. Consultees should then be re-consulted and the ES re-advertised.

In addition, in the interests of transparency, the application should be re-advertised making the size and scale of the proposal clear – the original advertisement did not indicate this.

1.2 Public Inquiry

We have set out in detail in our letters to the Minister at *appendix 2* of this document why a Public Inquiry is necessary to fairly and transparently come to a decision on this regionally significant application. In summary, we believe that a Public Inquiry is necessary as:

- No current policy exists specific to this type of solar energy planning application. As the application submitted is of great size and complexity and is unprecedented in the region, a Public Inquiry is required to fully assess potential impacts. (For example, section 4 page 10 of this document outlines how policy in other jurisdictions such as Germany requires Brownfield sites for solar farms. Issues such as where to best site solar farms need to be strategically considered here.)
- The need to hold a Public Inquiry to fully scrutinise the issues associated with this application has been endorsed by Mid and East Antrim Council (*see appendix 2*).
- The local community has been denied their legislative right under section 27 of the Planning (Northern Ireland) Act 2011 to a 12 week Pre-Application Community Consultation; and
- A valid planning application has not been submitted as described below.

1.3 Validity of Planning Application

Adequate information has not been submitted to allow a full and accurate assessment of the impacts of this proposal. For this reason, we believe that this application should never have been validated (see also *appendix 2*). A planning application can only be deemed valid if it is accompanied by, “such other plans and drawings as are necessary to describe the development to which it relates” (Article 3 (3) (b) GDPO). However, the following information has not been provided:

- A scaled block plan/layout plan (i.e. not indicative)
- Topographical survey
- Sections
- Details about the appearance of the solar panels and their specification. This should include colour, type, whether they are mobile or static and detailed site layout.
- Adequate information about capacity. The applicant has failed to provide any indication of the Capacity Factor of the proposal contrary to BRE Guidelines (See p.7 of our response to the Design and Access Statement for more details.) This information is vital in any weighting exercise carried out in the assessment of this application.

Without accurate information about fundamental elements of the proposal such as where the solar panels will be located, their materials, the levels on site and the type of panel (i.e. static or tracker) it will be impossible to fully assess the planning implications of this proposal. For example, sectional drawings would show the visual impact of the proposal on the subject site which rises from 120m AOD to 160m AOD on lands west of Whappstown Road and 140m to 170m AOD on lands to the east of the same.

Indeed without the availability of this basic information to inform the Environmental Impact Assessment, many of its chapters fall short in their assessment of the environmental implications of the proposal. This includes, for example –

- Design and Impact Assessment
- Chapter 6, Landscape and Visual Impact
- Chapter 10, Glint and Glare
- Chapter 7, Terrestrial and Ornithology Assessment
- Chapter 9, Archaeological and Cultural Heritage Impact Assessment

Without adequate information about the capacity of the proposal, a weighting exercise against other considerations cannot be properly carried out. We comment on this further in the rest of this statement.

1.4 Weight to be given to Economic Considerations

Since the submission of this application and accompanying Environmental Statement, there has been a significant change in policy direction in relation to renewable energy. Planning Policy Statement 18 (PPS 18), Renewable Energy, Policy RE 1 stated that, “The wider environmental, economic and social benefits of all proposals for renewable energy projects are material considerations that will be given **significant** weight in determining whether planning permission should be granted.”

The Department of the Environment published its Strategic Planning Policy Statement for Northern Ireland' - Planning for Sustainable Development (SPPS) in September 2015. In relation to renewable energy, the SPPS states that,

“6.225 The wider environmental, economic and social benefits of all proposals for renewable energy projects are material considerations that will be given **appropriate** weight in determining whether planning permission should be granted.”

Significantly, the SPPS also specifies that,

“1.12 Any conflict between the SPPS and any policy retained under the transitional arrangements must be resolved in the favour of the provisions of the SPPS. For example, where the SPPS introduces a change of policy direction and/or provides a policy clarification that would be in conflict with the retained policy the SPPS should be accorded greater weight in the assessment of individual planning applications.”

Therefore, only **appropriate** weight can be given to any wider environmental, economic and social benefits that might occur as a result of the proposal, not **significant** weight as would have been the case under previous policy.

As outlined below, any wider environmental, economic and social benefits that might occur as a result of the proposal are not sufficient to overcome the detrimental impacts on the landscape and other unacceptable detrimental impacts that would occur as a result of this proposal.

1.4. 1 Economic feasibility of the proposal

The findings of the Socio Economic Impact Assessment carried out by PMCA Economic Consulting are summarised at 5.4.3.7 of the ES and the full Socio Economic Impact Assessment set out at appendix 2.3 of the ES document. Having read this summary and report, we believe that this Socio Economic Impact Assessment is flawed for the reasons set out below.

There are a number of purported economic benefits that cannot be material considerations for this proposal as there is no certainty that they will deliver NI wide benefits. Benefits (direct and indirect) from the construction and ongoing operation of the project are estimated in the Socio- Economic Impact Assessment. The economic benefits presented centre on the creation of jobs and subsequent multiplier effects. For example, the Socio-Economic Impact Assessment claims that,
“Employment during the installation phase would see the creation of 214 direct full time equivalents (FTEs), in turn triggering an estimated 355 FTEs elsewhere in the local economy through indirect and induced effects (i.e. from knock on business to business supply chain impacts and household/final consumer impacts.)”

However, a number of reports argue that jobs created in the renewable sector are done so at the expense of jobs elsewhere in the economy. (See appendix 4). No account has been taken of this potential displacement of jobs in the socio-economic Impact Assessment.

There is no certainty that a portion or indeed any of the spend associated with this project will be in Northern Ireland. In terms of job creation, it is not clear whether the skills exist in Northern Ireland to install and maintain projects of this type or if contractors will be brought in from elsewhere. Even if the required skills are available in Northern Ireland, a contract of this size will attract interest from outside the jurisdiction and there is no guarantee that contractors, consultants and supplies will be sourced here.

If this is the case, the economic benefits arising from the project would be very different to those that would occur if local contractors are used. For example, although it is acknowledged that contractors from outside the region would make some contribution to the local economy e.g. through using local services, food etc. this would be much smaller than those estimated in the Socio-Economic Impact Assessment.

Page ix of the Executive Summary notes that these figures do not include employment that the proposed project has supported to date including planning consultants and environmental consultants. However the EIS demonstrates that a range of consultants have been employed from outside the jurisdiction, such as PMCA Economic Consulting based in Dublin or Charlotte Peacock Associates based in Northumbria. This highlights the nature of tendering for projects of this scale and that economic benefits are likely to flow out of the jurisdiction.

Without certainty that local contractors will be used, there is no certainty that the creation of these FTEs will benefit the local economy as described in this report. Without the level of certainty, significant weight cannot be attributed to this claim in reaching a decision on this planning application. In addition it should be noted in weighting this claim that the majority of these jobs will only be created for a period of four months.

1.4.2 Full assessment of costs and benefits

Additional factors should be included in the economic analysis to give a full picture of both the costs and benefits of the proposal. The Socio Economic Impact Assessment focuses on the benefits of the proposal and takes little account of any potential costs. For example, 7.4.3.8 of the ES notes that the proposal will result in a 'cessation of current intensive agricultural activities, such as silage cutting and spreading slurry'. The socio economic impact assessment does not take into account displacement of agricultural economic benefits such as the loss of revenues and jobs associated with this. It also does not address recent reports that the creation of jobs in the renewable sector may lead to the loss of jobs elsewhere in the economy such as jobs related to tourism or horse businesses located near the site. Any negative externalities that may arise are also not considered.

Consideration of these issues would provide a fuller picture of the net cost/benefit of the proposal before a judgement can be made on the net impact on the economy.

1.4.3 Accuracy of information provided

The economic benefits sited in this report are not comparable to those sited for other planning applications of this type. For example Planning Application H/2004/1395 for a solar farm at Dublin Road, Antrim is comparable in size to this proposal (the proposed solar farm at Dublin Road, Antrim is 49.9 MWh whilst the proposal at Kells is for 50 MWh). Given the similar sizes of these applications, one would expect the economic benefits predicted for both applications to be comparable. However, as the table below shows, there are large variations in the figures provided. This calls into question the accuracy of the information provided and the ability of the applicant to adequately predict what the socio-economic benefits of this proposal might be.

	Kells application	Dublin Road application
Reduction in annual CO2 emissions	43,000 tonnes	18,6000 tonnes
Employment during installation	214 FTEs	40 people
Expenditure to operate and maintain facility	£1 million per year	£250,000 per year

(taken from Dublin Road Design and Access Statement and Kells Socio Economic Impact Assessment).

We note that Economics Branch have been consulted on other renewable energy proposals (see appendix 4). Given the flaws identified in the Socio-Economic Impact Assessment, Economics Branch should also be consulted on this proposal to review and comment on the information put forward.

1.5 Energy Generation and Capacity

We have outlined in detail in our response our concerns about the actual ability of the proposed solar farm to generate the levels of electricity claimed. A number of the assumptions about the ability of the scheme to generate electricity at this location are incorrect.

The evidence presented in the ES about the viability of solar energy in Northern Ireland is based around the Irish Solar Energy Association’s submission for the Green Paper on Energy Policy in Ireland. This report sets out figures for solar radiation in Wexford as the basis for the viability of solar in Ireland. As set out at page 7 of our response to Section 4 of the ES, metrological conditions and the potential for solar generation in Antrim is very different than in Wexford. Therefore a convincing argument for the viability of solar at this location has not been made.

In addition, our evidence (see appendix 3) about the actual potential to generate solar at this location calls into question the figures for capacity put forward in the ES. Vital details about the proposal have not been provided, such as a detailed site layout or the final specification of the solar panels. Therefore, for example, the number of panels that can actually be fitted on site taking into account the site’s topography is unknown. Whether the panels will have a tracker system or how shading from hedges and other boundary treatments will affect their efficiency has not been taken into account in

estimating capacity.

For these reasons, we would argue that the amount of energy that will actually be generated at this site is much less than the 50MWh put forward in the ES. Therefore the contribution of this proposal to meeting Northern Ireland's renewable energy targets is also less than the figures put forward in the ES and should be given less weight in reaching a decision on this proposal.

The description of the application contains the installed capacity not the capacity factor or estimated annual production. The installed capacity of 50MWh can only be generated under optimum conditions which are unlikely to ever occur. Therefore this description is misleading to both consultees and the general public and should be amended and re-advertised. (See p.1 -11 of our response to the Design and Access Statement for more details).

1.6 Impact on Landscape

There is insufficient information to make a full, proper and accurate assessment of the landscape and visual impact of this proposal. Fundamentally, this regionally significant, major proposal for one of the largest solar farms in Europe does not include:

- A detailed block plan showing the proposed scaled layout of the solar panel arrays across the 94.9ha site.
- A detailed, scaled and accurate layout of the solar panels across this 94.9ha site should be provided on a topographical survey to show the solar panels' alignment and visual impact. The site rises from 120m to 160m AOD on lands west of Whappstown Road and 140m to 170m AOD on lands east of same, these drawings are therefore critical in terms of the assessing the visual impact of the proposal on the *surrounding area*.
- The subject site is also bordered with hedgerows and trees 'that can significantly reduce performance of the PV system'(Best Practice Guidance (hereinafter referred to as 'BPG'), Para. 6.2.7) so a detailed block/layout plan is necessary to accurately inform the extent of existing tree/hedgerow removal and the accuracy of any planting proposals put forward by the Applicant.
- The final specification of solar panels being proposed.

The limited guidance that is available in the BPG states at paragraph 6.2.2 'There is considerable variation in appearance' of solar modules and paragraph 6.3.3 states under matter that may need to be taken into account in the assessment of PV technologies include 'the colour and appearance of the modules'.

The EIA Regs. states at Schedule 4 (Part 1) under "Matters for Inclusion in Environmental Statement" that the description should include "(a) a description of the physical characteristics of the whole development and (b) a description of the main characteristics of the production processes, for instance, nature and quantity of the materials used."

The Landscape and Visual Impact Assessment (LVIA) for this proposal borrows the visual assessment techniques outlined in the Best Practice Guidance (BPG) for wind development as there is no such visual assessment guidance for large-scale solar farms. The BPG provides a general guide to the effect which distance has on the perception of wind development in an open landscape; this table is set out at paragraph 1.3.25 and shown below

General Perception of a Wind Farm in an Open Landscape:

Up to 2kms	Likely to be a prominent feature
2-5kms	Relatively prominent
5-15kms	Prominent in clear visibility - seen as part of the wider landscape
15-30kms	Only seen in very clear visibility - a minor element in the landscape.

There is no such guidance on *likely* effects of solar farms at certain distances. There is greater scope for inconsistency and variation in the assessment of visual effects for solar farms which is a major flaw in the methodology for this and similar LVIAs. This significant gap in the methodology/guidance for large-scale solar farms creates uncertainty for the Department/Councils and Statutory Bodies in making assessment on the visual acceptability of such schemes and seriously disadvantages third parties making representations and understanding the impacts of such proposals. This is lack of guidance is a matter that ought to be immediately addressed by the Department. The Applicant refers to the Supplementary Planning Guidance ‘*Wind Energy Development in Northern Ireland Landscapes*’. This guidance is based on the sensitivity of Northern Ireland’s landscapes to *wind* energy development and contains an assessment of each of the 130 Landscape Character Areas (LCAs) in Northern Ireland by referencing the characteristics and values associated with each LCA. The guidance is intended for use when considering all types and scales of *wind* energy development which again reinforces the argument that there is insufficient policy and guidance against which to assess solar energy development (Section 3). The Applicant identifies the LCAs within which this site falls; ‘Tardree and Six Mile Water Slopes’ (LCA 115) and Tardree Upland Pastures Landscape Character Areas (LCA 125). These LCAs both cite the man-made influences already present in these rural landscapes as follows:

LCA 115: ‘*Electricity pylons are prevalent in this Landscape*’

LCA 125: ‘*Electricity pylons pass through the central and southern parts of this landscape. Quarries (disused and existing) e.g. Craig’s Quarry. Existing wind farm (Elliot’s Hill) on Big Collin*’

The application site is already subject to and/or seen in the context of a range man-made influences: the electricity pylons; Hillhead electricity sub-station; Elliot's Hill and Wolf Bog wind energy developments and quarries. From the 14 viewpoints identified and assessed, 13 referred to these man-made influences in the 'existing view', however in no part of the assessment either through the individual viewpoints or the cumulative impact assessment is the overall impact of the proposal on the rural character of this area assessed. We consider that the introduction of a 96.4ha solar farm in this area will, in combination with the existing (and proposed) man-made influences, significantly and unacceptably change the character of this area from one that is essentially rural to urban/industrial in nature.

The Applicant has conceded that there will be '*significant, visual impacts*' from 2 of the 14 viewpoints identified but does not go as far as to make a determination on acceptability. Instead there is reference to a landscape mitigation strategy; however, as previously stated in the absence of a detailed layout plan, the landscape strategy is not accurate or reliable for the purposes of assessment.

It is our assessment that the significant visual impact is unacceptable and therefore the proposal is contrary to Policy RE 1 of PPS 18.

Please see p.32 and 44 of our response to the Design and Access Statement as well as our response to Section 6, Landscape and Visual Impact Assessment for more details. The mitigation measures proposed to lessen the obvious detrimental visual impact of this proposal are to introduce, "Larger size trees and shrubs" along boundaries as well as strengthening existing hedgerows. However, even larger trees and shrubs will take time to establish and given the lifetime of the project at 25 years, these measures are unacceptable. Our response to Section 6 outlines the inadequacy of the Visual Impact Assessment carried out by the applicant which only takes into account summertime conditions when the visual impact of the proposal will be least. As argued in our response to section 6, this impact assessment should be repeated to also take account winter conditions when there will be no leaves on the trees and the visual impact of the proposal will be greatest.

1.7 Section 7, Terrestrial Ecology and Ornithology

As outlined in our response to this chapter, we have a number of concerns about the impact that this proposal will have on terrestrial ecology and ornithology including bats, butterfly and otters. However, we are particularly concerned about the impact that this proposal will have on the breeding habitat of Curlews. NIEA in their response of 6 August 2014 note, "NIEA holds records of breeding curlew within and near the proposed development. The curlews nesting in the Kells area represent a significant proportion of the Northern Ireland population, so the loss of breeding sites from this area would be significant to the overall population, especially when considered with windfarm developments in the area."

The applicant failed to find evidence of breeding curlews on the site. However, KellsVOCAL have provided evidence of the birds nesting at the site (see appendix 5). As evidence has been provided of the birds at this site it is clear that this proposal is potentially damaging to the curlew population of Northern Ireland. The fact that the breeding bird surveys initially required by NIEA have not been completed is therefore of grave concern.

1.8 Chapter 8 – Flood Risk Assessment

8.5.3 deals with increased run off as a result of the proposed solar farm. This chapter notes that, ‘Installation of the panels will have minimal impact on the ground as only the posts are embedded into the ground. Rainwater falling off the panels will be directed towards the existing ground where it will infiltrate into the ground as it does now.’ However, we would argue that rainwater will not infiltrate into the ground as it does now. The ground will be compacted as a result of building work and ongoing maintenance making it more difficult for water to infiltrate into the ground. In addition, this assessment does not deal with the fact that rainwater will be concentrated at the lower edge of the solar panel, as acknowledged by the Flood Risk Assessment carried out for Reach Community Solar Farm dated 4th February 2014. This flood risk assessment (appendix 6) shows at 4.1 that as solar panels are impermeable, they will shed water to the lower (southern) edge of each row of panels creating a small strip beneath the lower edge of each row of panels that will receive a slightly higher amount of rainfall. If the ground under the front of each row of panels is not able to absorb the water, run-off could occur.

This report also notes that there has been at least one case where solar panels have caused increased run-off owing to the infiltration rate of the land not being sufficient to absorb the increased water falling upon it and that the principal factors affecting infiltration rate are soil characteristics, vegetation cover, and slope angle.

Given the massive scale of the proposal at Kells, with an estimated 200,000 panels, the cumulative impact of runoff from all these panels should be fully assessed and factors such as slope, soil characteristics and vegetation cover taken into account. This assessment should also consider the impacts that run off from the panels will have on watercourses and other receptors should be considered. We therefore do not agree with the ES which states that,

“RPS would not consider that a detailed Drainage Assessment is required as it has been demonstrated that there is zero increase in run-off,”

In any case, annex D of PPS 15 advises that a drainage assessment should be carried out where the site exceeds 1 hectare. We therefore consider that a detailed flood risk and drainage assessment should be submitted with this application in order to demonstrate conformity with PPS 15.

1.9 Section 9 - Archaeology and Cultural Heritage

Figure 4.9 of the ES shows the original site boundary that was brought to public consultation in relation to this proposal. Originally archaeological sites ANT 38:35 and ANT 38:46 were both located outside the application boundary. However, changes to the application boundary (shown in drawings 01 – 12 and Figure 9.2 of the ES) mean that ANT 38:35 (a Rath site) is now within the application site. However, Section 9 of the ES does not appear to have been updated and consistently refers to ANT 38:35 as falling outside the application site. This is incorrect and no assessment is recorded of the implications of this Rath site now being included within the application site.

In addition, neither of these sites are recorded in the table at appendix 9.1 of the ES which calls into question the completeness and accuracy of this table.

Please refer to section 9 of this document for our detailed comments on Section 9 of the ES.

1.10 Chapter 10 – Glint and Glare

Although Chapter 10 notes that a computational model was used to determine potential glint effects, details of the software package used have not been provided. Therefore it is not possible to verify if this modelling was carried out using software that is fit for purpose. (This would be a normal requirement, for example, for applications for wind farms where computer modelling has been carried out.)

A detailed map is provided in this chapter identifying potential receptors. However, as these are numbered rather than named it is not possible to identify individual properties and how they will be affected. In the interests of transparency this information should be provided so that people living in the area can establish how glint will affect their home or business as a result of the proposal.

In addition, without a detailed specification of the solar panels e.g. what colour will they be, what colour will their frames be, it is not possible to conduct a thorough assessment of glint and glare arising from these. (See p.26 and 27 of our response to Design and Access Statement for more details.)

1.11 Chapter 11 – Land Use and Human Environment

This chapter highlights that the proposal will be located on a mixture of moderate and poor agricultural land. The potential impacts of the loss of land of this type should be considered, taking into account that this is likely to set a precedent for further similar developments and looking strategically at the contribution that this land makes to Northern Ireland's economy (in particular the agricultural sector) and security of food supply.

1.12 Chapter 13 – Noise and Vibration

This chapter only considers noise that will be generated from the substations associated with this proposal. It does not consider noise that will be generated from the solar panels themselves. The solar panels may move to optimise how they capture the light. Given the scale of this development with an estimated 200,000 solar panels this should be discussed in the noise and vibration assessment.

Our detailed comments on each section of the ES are now set out in the remainder of this document. This includes comments on other areas of concerns such as:

The failure to properly consider alternative sites in accordance with EIA regulations;

Unacceptable and unsafe access arrangements;

and

Unsatisfactory decommissioning arrangements.

Proposed Kells Solar Power Station

Response to Non-Technical Summary



Response to NON TECHNICAL SUMMARY

Comments on Paragraph 1 – Non Technical Summary

The description provided here is inadequate. It states that,

“The application seeks full planning permission for a proposed solar farm with a total generating capacity of 50MW.”

However, as set out in our Executive Summary, this description of capacity is inadequate. 50 MW is peak capacity at the equator on 21st June at midday. The actual generation will be between 7% and 8% of peak capacity.

THE DEPARTMENT MUST INFORM THEMSELVES, AND THE PUBLIC, OF THE ACTUAL GENERATION BEFORE THEY CAN DETERMINE THIS APPLICATION

The design had not been completed when the application was submitted as is confirmed in ES Clause 13.5.2.

Please clarify with the agent the extent of the design work still to be done

The non-Technical Summary goes on to describe the proposal,

“Development proposals include:

- Photovoltaic Solar Panels erected on steel frames in arrays of 24 or 48 panels;
- 1 on site sub-station;
- 40 No. Inverter stations across the site; **HOWEVER 100 inverter stations of the type described in appendix 13.1 are required:**

The consultation responses from Mid and East Antrim and Antrim and Newtownabbey Environmental Health Departments both state that:

‘In addition, it is noted that the largest unit has a stated power of 500 kW. Section 13.4.2 of the ES states that 40 inverters are to be located within the proposed development i.e. 40 X 0.5 MW = 20MW. However, the proposed development is for a total generating capacity of 50MW. The applicant is requested to confirm the number and size of each inverter and provide representative noise level data’.

Thus 100 inverters would be required for a 50MW development.

- **Please clarify with the agent and provide details of where the additional 60 inverter stations are to be sited.**
- **2 x temporary storage compound;**
- Perimeter post and wire "deer" fencing (2.45m high);
- 30 No. CCTV security cameras (3m high);
- Upgrade of 2 existing road accesses onto Whappstown Road;
- **2 x temporary construction compounds;** and
- Associated internal service tracks.”

Two compounds as detailed within the ES do not provide sufficient welfare facilities for 214 construction workers.

Please clarify with the agent the number of compounds to be constructed

The 2800 tracker motors detailed in appendix 13.1 are not mentioned in the planning application.

The application and advertisements are silent as to whether the panels are static or tracker. The inclusion of details for the trackers suggests that the arrays will move to follow the sun.

Please clarify with the agent why the tracker system is only referred to in appendix 13.1.

Please clarify with the agent if the arrays are fixed or tracker arrays.

AREA OF THE SITE

In total, lands included within the planning application boundary comprise 94.9 hectares.

Though sometimes the site contains different areas ranging from 84 to 116 ha.

Mr. Keith Irwin and the applicant agreed in September 2014 that the PREAPP area was 84ha.

In January this had increased, on the applicant's website, by one third to 112ha

1.1 Project Status 6th January 2015

The project is at the pre-planning stage. The scheme has been developed to a stage that allows us to meet and consult with stakeholders. Feedback, both positive and negative, from stakeholders will inform our final design. We envisage lodging the planning application with the planning authority in February/March 2015.

1.2 Size of site

1.3 The site is approximately 112h

Prior to submission of the application the site layout has changed by the removal of highly visible lands fronting the Whappstown Road.

Unfortunately the site was at the same time increased by taking in the most sensitive areas that provide habitat for many endangered species, and the archeological sites. These issues are covered in the relevant chapters.

It should be noted that the applicant intended to submit an application in February/March 2015 without carrying out the required bird surveys at all.

It is also noted that the area of the site was not in the advertisement.

The issue is the size of the site and its ability to accommodate 200,000 solar panels.

The 11th June site layout drawing is a schematic layout.

The spaces between the panels are uniform,

Because of the topography of the site spaces between the arrays will not be uniform.

The schematic layout drawing date stamped as received by planning service on 30th June, five days after the application was validated does not constitute a layout drawing for full permanent planning application.

Had the schematic layout been received before the application was validated Planning service could not have validated the application.

The temporary construction compounds which will be there for three months have precise details of distances between each of the elements within the compound yet the permanent structures of solar arrays have no such detail. In fact none at all.

The schematic plan shows arrays in the areas of the temporary construction compounds. Is the construction of these arrays to take place after the compounds are removed?

The permanent compound is not indicated on the schematic plan. Again this area will result in less space for arrays.

Without a properly annotated layout plan an assessment cannot be made of this application

The topography of each parcel / field/ area of ground will determine the layout of the solar arrays on that parcel of land.

This information is necessary to determine the effects this will have on that parcel of land and its interaction with adjoining parcels of land.

The potential for glint and glare cannot be assessed without this information. Added to the complete lack of information about type of solar panels the Glint and Glare section of the ES cannot be relied on at all

Furthermore In the absence of a detailed layout showing the topography of the ground of each parcel of land and the spacing of the arrays in that parcel of land a noise survey cannot be carried out.

Noise and vibration generated by wind flows through the panel arrays and transferred to adjoining arrays cannot be assessed until detailed layout plans are submitted.

The noise and vibration section of the ES cannot be relied on.

Furthermore Visual impact cannot be assessed without knowing the colour of the panels and the spacing of the arrays.

Please ask the agent to supply a detailed site layout indicating the space between each of the arrays and the corridor distances between hedges and trees. The NIW wayleave corridors should also be marked on the plan. When this detailed layout plan is available each section of the ES will have to be reassessed.

POTENTIAL TO PRODUCE ELECTRICITY

Whereas the area of the proposed site has changed very considerably the maximum output has never really changed. In some documents it is 49.5MW and in others it is 50MW. The number of panels remains at two hundred thousand.

The land required for 200,000 panels will depend on the topography of the ground which will dictate the spacing of the arrays. Figure 2.2 of this document states that the arrays will be between 2 and 6 metres apart. The array takes up approximately 3 m. If the space behind it is 2 m then the land take for that array is 5m. If the space behind the array is 6m then the space required for that array is 9m. Almost double the area for the same number of panels.

It must also be noted that when the application was validated the distance between the arrays was 3 -6m.

On 30th June this was changed to 2 -6m.

This constitutes a fundamental change in design after the application was validated.

Without a detailed layout it is impossible to ascertain how many arrays will fit into each parcel of land. The potential to generate electricity and the viability of the proposal cannot be assessed.

Please ask the agent to supply a detailed dimensioned layout plan in order that a proper assessment can be made of the various impacts of this proposal.

IN THE ABSENCE OF THIS INFORMATION THE DEPARTMENT CANNOT ASSESS THE FUNDAMENTAL PURPOSE OF THIS PROPOSAL, GENERATION OF ELECTRICITY. THE DEPARTMENT CANNOT MAKE AN INFORMED DECISION ON THIS APPLICATION

Environmental Impact Assessment

The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2015 - hereafter referred to as the EIA Regulations 2015 - came into operation on 1st April 2015. These supersede the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2012 - hereafter referred to as the EIA Regulations 2012. Given the duration of the project lead in period both sets of regulations may be referred to at different locations within this ES document.

The agent states:

For the avoidance of doubt, this ES has been prepared in compliance with the EIA Regulations 2015

However he agent did not comply with schedule 4 part 1.2 of the regulations:

An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for the choice made taking into account the environmental effects.

As recorded in the PREAPP file In June 2014 Breen architects claimed to have undertaken numerous site feasibility assessments located throughout Northern Ireland.

Please ask the agent to supply details of the alternative sites assessed throughout Northern Ireland.

IN THE ABSENSE OF THIS INFORMATION THE DEPARTMENT CANNOT ASSESS THE SUITABILITY OF THE APPLICATION VERSUS OTHER SITES WHERE LESS ENVIRONMENTAL DAMAGE WOULD OCCUR. THE DEPARTMENT CANNOT MAKE AN INFORMED DECISION ON THIS APPLICATION

A PUBLIC INQUIRY WILL AFFORD ALL STAKEHOLDERS THE OPPORTUNITY TO ASSESS THE SUITIBILITY OF THE PROPOSED SITE VERSUS OTHER THE OTHER SITES LOCATED THROUGHOUT NORTHERN IRELAND.

Planning Policy

On 8th July 2014 a formal EIA Determination request was submitted to Planning NI under Regulation 7 of the 2012 Regulations seeking confirmation of whether or not the Kells Solar Farm project constituted an EIA development. This letter was submitted by Breen Consultants.

In correspondence dated 4th September 2014 Planning NI responded to the request confirming that the proposal falls within Schedule 2 - Category 3(a) of the 2012 Regulations which refers to: "Industrial installations for the production of electricity, steam and hot water" where "the development exceeds .5 hectare."

Deeming this application to be for an industrial solar power station.

PPS 18 relates only to solar arrays up to a few hundred square metres.

This proposal is for a major electricity generating station in the heart of the countryside.

- If PPS 18 is in part used to assess this application the objectives and planning policies must be observed

3.0 Policy Objectives

3.1 The aim of this Statement is to facilitate the **siting of renewable energy generating facilities in appropriate locations** within the built and natural environment in order to achieve Northern Ireland's renewable energy targets and to realise the benefits of renewable energy.

3.2 The objectives of the Statement are:

to ensure that the environmental, landscape, visual and amenity impacts associated with or arising from renewable energy development are adequately addressed;

to ensure adequate protection of the Region's built and natural, and cultural heritage features; and

to facilitate the integration of renewable energy technology into the design, siting and layout of new development and promote greater application of the principles of Passive Solar Design.

This proposal is contrary to policies set out in Policy RE1 of PPS 18 for the following reasons:

- The developer has submitted proposals to develop the peatlands within this site that has been identified as a priority habitat for both Fauna and Flora.
- The areas under the panel arrays will be deprived of rainfall and will dry out. The area between the panels will be flooded with excessive rainfall runoff. The peatlands will be destroyed.
- The applicant has not submitted any information, comprehensive or otherwise, that would draw attention to his intention to develop the peatlands.

The justification to policy RE 1 of PPS 18 at 4.9 states that

“Where complete avoidance of risk is not possible the proposed design should be modified to incorporate engineering options for mitigation of risk. **Development consent may be declined due to the level of hazard identified or where engineering solutions have the potential to significantly increase the level of disturbance, or drying out of the peat and release of carbon.**”

The release of carbon negates the applicant's claim of reducing carbon emissions. A public Inquiry must be called to investigate how a developer can submit a proposal without engineering options for mitigation of risk.

The same rules set out in PPS 18 apply to solar generation.

In relation to solar energy, this can only be exploited where solar irradiance is sufficient to warrant the destruction of the countryside.

The department must produce independent research to demonstrate that the destruction of the countryside is warranted considering the potential to generate a minimal amount of electricity.

Please note the Agent HAS NOT outlined the benefits arising from the development in terms of the energy produced. The agent has based his ES on the plated generation capacity. A small fraction of this electricity will be produced.

Comments on Paragraph 1 – Non Technical Summary

The Project description in this section states that,

“The proposed panels will measure 1.95m by 1.0m.”

KellsVOCAL require full details of the make and model of the proposed panels in order that a risk assessment of the toxic chemicals can be carried out

“The arrays will be separated from each other by a maximum of 6m and at their closest will be 2m apart. Again, this depends on localised topography. “

A block layout plan is required in order that various impact assessments can be carried out

“Where there is potential for minor deviations in respect of project components, for example heights of panels off the ground, in all instances within this ES the "worst case scenario" has been applied to inform the respective surveys and associated reports contained within this ES.”

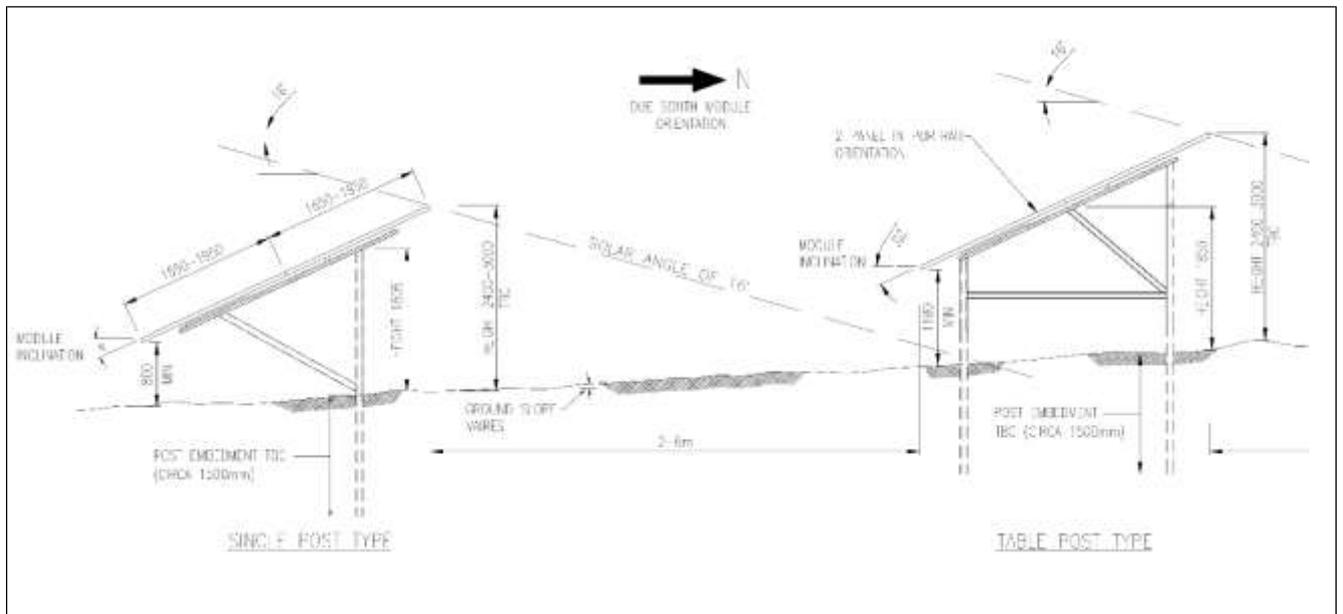
Without a fully annotated block plan the “worst case scenario” cannot be assessed

Mounting System

“Each frame table will incorporate either 48 or 24 panels and will be supported on aluminium and steel posts/frames that will be driven or screwed into the ground to depths of up to 1.5m.

In rare cases where it is required to safeguard potential archaeological assets frames can be mounted using a shallow concrete ‘shoe’.”

The entire site has potential for archeological finds. A non-intrusive survey of the entire site must be carried out before this application can be considered.



KellsVOCAL Want to know why the minimum separation distance was reduced from 3m to 2m after the application was lodged.

KellsVOCAL believe that this proposal is economically unviable. An annotated block plan is necessary before any claims of economic benefits can be considered.

Connecting Cables

“As part of the solar PV plug and play system, small connecting cables run along the back of each panel to the end of every row where they connect to the main cables which connect to the inverter stations and primary substations. The small connecting cables are not under-grounded.”

A risk assessment must be carried out of the dangers of our children and grandchildren unplug and play with these cables.

“The main cables will be installed underground throughout the site. Cables will be no more than 100mm in diameter and will be installed via traditional open trenching techniques. In this instance, trenches will be no greater than 1m deep, depending on the detailed terrain. The first 150mm of trenches will be stones before the remainder is backfilled with the existing topsoil which was previously removed to facilitate the cable laying. There will be no importing of materials to facilitate this process.”

We believe that this statement is incorrect and the stones will have to be imported. Please provide an explanation?

Substation Building

“SCADA and telecommunications links will also be required at the site for the purposes of metering, remote control and protection communication to the NIE / SONI Control Centres.”

Clarification is required regarding how these communications are relayed and what hazards are associated with the transmission of this data and how that might affect performance of existing communication systems.

“The building will not be permanently staffed but will be periodically visited by maintenance personnel.”

This will result in real job losses over the lifetime of this proposal.

“The substation building dimensions are 20m (l) x 10m (w) x 6.5m 9h). It is located within a larger compound measuring 30m x 25m in area. The proposed substation will be finished in dash and natural slate and set within a security compound. It is proposed to locate the sub-station within a low-lying portion of the site to the extreme north-west the location of which can be referenced in Drawing NI1451.1.002 Revision A, which accompanied the planning application, a not to scale copy of which is included in Appendix 2.1, Volume II of the main ES.”

A 30m x 25m high security compound is not acceptable. A domestic residence would not be permitted a high security fence. This is totally unacceptable. If this high security fence is necessary to protect the equipment from thieves and vandals then the development is unacceptable in a rural setting.

Inverter Stations

“Inverter Stations (x40) will be located throughout the site. These are small cabin-like buildings located internally throughout the site.”

Clarification is required on the number size, appearance, colour, materials, of the inverter stations. The noise emitted by the inverter stations has not been assessed. The number of inverter stations is incompatible with the number and or description in the ES

Temporary Storage Compound

“Two temporary storage compounds are proposed during construction,”

Toilets will be self-contained and will cater for a peak maximum of 28 site personnel and visitors. This must be taken into account when assessing economic impact. The average number of construction related jobs equates to .18 jobs over the lifetime of the proposal. Together with the occasional maintenance visits there is less than one job created over the lifetime of the proposal.

“Please refer to drawing 1451.1.005 Revision A, contained within Appendix 2.1 for the proposed layout of the temporary compound.”

This annotated block plan contains the type of information that will be necessary for the applicant to supply for the entire site.

Perimeter Fencing

*“For security purposes the site will be enclosed by 2.45m high post and wire (deer) fencing, see Figure
The materials used are chosen to be in keeping with the landscape.”*

Fences must be no more than 1.2m high to retain the character of the countryside. There are no deer in this area and deer fencing is not required.

The fence must not be raised 150mm off the ground to allow continued unrestricted access for children across the site.

CCTV Cameras

We object strongly to CCTV cameras located throughout the site.

CCTV cameras will not be accepted. CCTV cameras are an invasion of privacy and will not deter criminals. The developer has chosen a site that is surrounded by private residences. We will not have our human rights compromised. THIS SITE IS UNSUITABLE FOR A SOLAR POWER STATION. OUR RIGHT TO PRIVACY WILL NOT BE COMPROMISED.

Access Roads

Access to the site proposed off the Whappstown Road is unacceptable.

The proposed industrial entrances are in contravention to the area plan. The proposed entrances are dangerous and utterly unacceptable.

The width of the access is 6m which will allow for a two-way traffic access and egress from the site.

A 6m road is necessary whereas the entire Whappstown Road is at its maximum 4m wide. These entrances cannot be accommodated off the Whappstown Road.

In terms of visibility;

The proposed entrances are on bends and slopes. They are dangerous and cannot be permitted.

Internal Service Tracks

“Permeable stone access tracks are proposed through the development to facilitate occasional maintenance arrangements.”

Again note the occasional maintenance and the number of job losses this proposal will cause.

Construction Period

The proposal will be constructed across a 16 week period - not allowing for holiday periods or any potential work embargos placed on construction via any planning conditions during certain periods, should such embargo be required. This timeframe is based on a working day of 8am - 6pm from Monday to Friday and from 8am - 1pm on Saturday.

This is at odds with the noise and vibration section page 8 which refers to noise generated by equipment over the full daytime period (07.00 – 23.00)

The CEMP does state working hours it does however refer on page 4 and 30 to “THE APPOINTED CONTRACTOR”.

The truth is that the UK based contractor is likely to want to work all daylight hours.

No jobs created at all.

Panel Cleaning / Maintenance

The cleaning contractor will normally bring the de-ionised water to the site.

No jobs created at all. A contractor will be employed to build the power station and a contractor will be employed to clean the panels when necessary.

Traffic Generation

Traffic movements peak at week 8 of the construction period at a rate of 3.24 total trips per hour.

As deliveries will arrive off one boat this is designed to be misleading as all deliveries will arrive at one time when the boat docks

*During the operational period traffic generation will be minimal and confined to:
Occasional maintenance in the event of panel damage or for cleaning of the panels; or
Occasional site visits to the sub-station.*

No jobs at all. This proposal will result in job losses

The substation will not be permanently staffed whilst the solar farm itself will

be monitored remotely. Traffic generation during operation will be minimal and significantly less than that generated during the construction phase of the development. Please also refer to Section 14 of this NTS.

No jobs at all. This proposal will result in job losses

Decommissioning and Reinstatement

At the end of the project's operational life the solar farm will be fully decommissioned. All elements will be removed from site and where possible will be recycled. Any waste generated during the decommissioning process will be removed and transported by a certified and licensed contractor. The site will be restored leaving no permanent visible trace.

Solar panels contain toxic substances and are the new asbestos. The agent avoids any reference as to who will pay to dispose of toxic waste but acknowledges that a licensed contractor will be required to dispose of toxic substances.

'Installed rooftop photovoltaic systems can also present human and environmental risk. Toxic chemicals, mainly heavy metals, such as cadmium and selenium, can leach from broken, weathered and/or aged modules that are still in service or after disposal (EPRI, 2003)' Furthermore, spent solar modules disposed of at landfills can become a source of contamination in local soil environments, ground waters and surface waters (EPRI, 2003)

As this information was gathered from a study of leaching from rooftop solar into harvested rainwater, the Department should be very concerned about the potential for leaching of toxic substances across 250 acres, over a 25 year period, into watercourses, wells and groundwater.

The Effect of Photovoltaic Nanomaterial Roofing on Harvested Rainwater
www.water.usgs.gov/wrri/10gr

The applicant has omitted to provide any information whatsoever, in either the ES or the D&AS about the type of solar panel to be used in this development. Would the panels be, for example, Polycrystalline, Monocrystalline, Thin-Film, Amorphous Silicon, Cadmium Telluride or some other type?

It is vital to have this information because some panels have more associated health and safety hazards than others and people living in close proximity wish to know how

they might be affected by risks such as leaching of chemicals from damaged or vandalised panels or from the toxic fumes produced by a fire on site.

As the proposed development would be situated very close to residential dwellings, the Department must carry out an independent, expert assessment of the risk to humans, livestock, mammals, birds and fish, associated with leaching of toxic substances into watercourses, wells and groundwater.

The solar panels will be removed from the site in the same way they were transported to the site originally. The cables interconnecting the panels to the electricity grid system will be de-energised and removed from the site, with any cable marker signs removed.

A decommissioning programme will be agreed with the relevant authorities prior to commencement of the required works. Decommissioning works may result in environmental impacts however it is likely that these will be reduced when compared to the construction phase. The potential for impacts is greatest in respect of: noise, ecology, and traffic and transport. In each instance, impacts will be temporary and where necessary will be offset by appropriate mitigation measures proposed as part of any all-encompassing decommissioning statement. It is accepted that any planning permission granted in respect of this proposal is likely to be subject to an appropriate planning condition in respect of the de-commissioning phase.

Large scale solar energy production is not viable without subsidies. The energy is dirty and unreliable. The technology is ineffective. In October 2015 two solar energy companies have gone into liquidation.

A decommissioning bond with a UK based surety must be in place before any construction work commences on any large scale solar projects.

Outline Construction Environmental Management Plan

The CEMP confirms that the work will be carried out by a contractor

Socio-Economic Impacts

THE DEPARTMENT MUST COMMISSION ITS OWN REPORT TAKING INTO ACCOUNT JOBS LOST IN THE AGRICULTURAL AND AGRIFOOD SECTOR.

THE ACTUAL PRODUCTION OF ELECTRICITY IS A MERE FRACTION OF ELGINS CLAIMS. CO2 EMISSIONS ARE LIKELY TO RISE.

The proposal is likely to create and sustain significant employment and economic benefits during the construction and operational phases of the project. The "sustain" reference refers to existing employment in NI – in addition to creating new jobs, the knock-on economic impacts would also serve to sustain existing employment elsewhere in NI as well as the new employment created. Economic benefits include:

- *Employment during the installation phase would see the creation of 214 direct full-time equivalent (FTE) jobs.*

The CEMP confirms that the work will be carried out by a contractor. The agent has no justification for this

- *This in turn will trigger an estimated 355 FTEs elsewhere in the local economy through indirect and induced effects (i.e. from knock-on business-to-business supply chain impacts and household/final consumer impacts);*

There absolutely no justification for these claims.

- *A further 14 FTEs per year would result during the operational phase, consisting of 5 FTEs directly engaged with the operation and maintenance of the proposed installation and an additional 9 FTEs created or sustained through the project's wider economic stimulus;*

The ES confirms one man (contractor) making occasional visits to clean and repair panels

- *The employment impacts are significant when set in the context of the 154 unemployment claimants in the Kells, Glenwhirry, Parkgate and Shilvodan Wards in the vicinity of the proposed project recorded in January 2015; and the employment impacts are also noteworthy in the wider context of the 2,355 unemployment claimants recorded in the Ballymena and Antrim local authority districts in January 2015;*

There will be no local jobs created

- *Connected to the grid, the proposed project would have the capacity to provide electricity to around 15,000 homes, based on Ofgem's figure of 3300 typical households. It would save the equivalent of approximately 21,500 tonnes per MW of carbon dioxide (CO2) over its lifetime, meaning that the proposed project would be capable of abating about 1,075,000 tonnes of CO2 during its 25-year duration, or around 43,000 tonnes of CO2 per year. All CO2 figures referred to are gross;*

Note have the capacity means direct overhead sunshine 24 hours per day 365 days per year. No night time, no cloud, no haze, no fog.

- *The estimated overall economic gain from the proposed project is estimated at £47.6m, over both the installation and operational phases;*

No gain for Northern Ireland. This gain represents the subsidies the developer will gain from our increased cost of electricity.

- *Rates to the NI Executive - based on rates in respect of other renewable energy technologies
- would amount to an estimated £200,000 per year or £5 million during the 25 year lifetime of the project;*

This is something the department will need to verify and off set against the loss to the economy of employment and food production.

- *A community fund of £6000 per consented megawatt - to a value of £300,000 (over the project lifetime) is to be made available to the local community;*

Giving back one penny for every £100 pound in subsidies the developer gets from us in the first place

- *Upon commencement of the proposed installation, it is intended to introduce an Electricity Savings Scheme (ESS) for those dwellings located within the intermediate environs of the site (2km radius) whereby a payment of up to £100 per year will be available for households to claim. Based on pointer data secured from Ordnance Survey in respect of the local area, there are 558 potentially eligible properties within this radius;*

These figures must be verified by the department as again they appear to be highly exaggerated.

The community fund and ESS together with the majority of the socio-economic impacts, with the exception of any minor benefits triggered by spend during the pre-planning phase, will be dependent upon the project achieving planning permission and an appropriate grid connection. The community fund and ESS will be confirmed through appropriately timed legal agreements.

This community does not accept any form of bribery in return for permission to destroy our environment

Design Principles

- *Areas of greatest environmental sensitivity are excluded from development and a package of environmental management proposals including enhancement measures are integral components of the project. Please refer to Appendix 7.8 of this Environmental Statement to review the Ecological Constraints and Opportunities Plan.*

Areas of greatest environmental sensitivity were excluded from the original PreAPP design. The developer was requested to remove areas adjacent the Whappstown Road and rather than scale back his proposal he then included the areas of protected habitat and archeological sites.

Design & Access Statement

The design is so fundamentally flawed that we have written a 50 page response highlighting how inadequate the design is.

2. Scoping and Consultation

The screening exercise and subsequent scoping studies form part of the environmental assessment process. Both exercises were undertaken in accordance with the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2012, which was the prevailing relevant legislation at that time.

CONSULTEES HAVE NOT BEEN INFORMED THAT THIS APPLICATION COVERS 250 ACRES AND THEREFORE DID NOT HAVE INFORMATION NECESSARY TO MAKE INFORMED DECISIONS.

EIA Screening

On 8th July 2014 a formal EIA Determination request was submitted to Planning NI asking for a determination as to whether EIA applied to this project.

On 4th September 2014 Planning NI responded to the request confirming that the proposal constituted EIA development in their opinion. Planning NI stated the reasons for the determination included the following, "potential significant environmental effects:

- Visual Impact;
- Noise, traffic and dust during construction;
- Impact on flora and fauna;
- Glint and glare on aviation aircraft and vehicular transport corridors;
- Pluvial ponding and surface water run off to various waterways;
- Impact on the integrity and setting of archaeological sites and monuments in the vicinity of the site;
- Impact on local bird populations including Curlew, Snipe and Skylark."

The purported ES submitted by the agent is the most flawed document ever encountered by KellsVOCAL.

Filled with errors, omissions, disclaimers this document cannot be relied upon.

USING THE PRECAUTIONARY PRINCIPLE THE DEPARTMENT CANNOT RELY ON A DOCUMENT SO OBVIOUSLY FLAWED

A PUBLIC INQUIRY MUST BE HELD TO INVESTIGATE HOW A PLANNING APPLICATION COULD BE SUBMITTED WITH SUCH A FLAWED ES

Table 3.1 Planning NI - Consultation Responses

The agent has been economical with the results of the consultee responses in this section. The letters are in appendix 2 3.1 and KellsVOCAL expand on these now. Further information can be found in the main sections to the response to the ES.

NIEA Landscape Architects Branch		Consider alternative sites
----------------------------------	--	----------------------------

The applicant failed to look at alternative sites. Breen architects said that they had looked at alternative sites through Northern Ireland but failed to produce any evidence.

RSPB Northern Ireland	Y	Habitats - Phase 1 survey; Impacts on Peatland; Bird surveys for at least <u>two</u> breeding seasons. Bird survey of site
-----------------------	---	--

The applicant carried out an inadequate breeding season bird survey. Members of Kells VOCAL saw breeding and foraging priority species in and around the site but the agent did not and put a disclaimer on his report. Should the applicant now carry out two breeding bird surveys they cannot be finished until at least late summer 2017.

The application must be refused on the grounds that the applicant failed to carry out breeding season bird surveys over two full breeding seasons.

In October 2014, RPS undertook a further Scoping exercise directly with an extended list of consultees to further inform the preparation of the ES. The rationale for undertaking this second scoping exercise was to:

- *Ensure all consultees were in receipt of the most recent project information;*
- *Ensure the EIA process was controlled and robust; and*
- *Ensure all consultees - including those that had not already provided responses through the Planning NI process - had an opportunity to respond to the most up to date information.*

**At this time large scale solar was new to Northern Ireland. None of the consultees had any knowledge of the damage this type of development could do to the environment. The proposal has radically changed since October 2014 to include the peatlands and historic monuments
Solar companies had “sold” their highly exaggerated benefits to politicians and councilors.
Refer to Hansard report Committee for trade and investment 13 March 2014
Ballymena Borough Council 6th November 2014**

Table 3.2 RPS Scoping Summary

Upon further development of the project RPS consulted directly with Transport NI regarding proposed access arrangements. Transport NI responded to RPS on 22nd June 2015 to confirm they were content with proposed access arrangements.

All responses are included in Appendix 3.1 of the main ES document, Volume II.

On paper the accesses may appear to be adequate but they are sited adjacent to blind bends. Please request Roads Service / transport NI must visit the site and comment further.

Community Consultation

Appendix 3.2 of the main ES document comprises a Community Engagement Report setting out the community consultation initiatives and overall process employed during the planning lead in period in respect of this proposal.

THE COMMUNITY CONSULTATION IS INVALID.

AT THE TIME THESE DISCUSSIONS TOOK PLACE THE AREA OF MOST ENVIRONMENTAL AND ARCHEOLOGICAL SIGNIFICANCE WAS NOT PART OF THE PROPOSAL.

THE PEATLANDS, RAFT AND LAKE WERE INCLUDED JUST PRIOR TO SUBMISSION OF THE APPLICATION

The proposed development presented at open nights and placed in front of the public kept areas of high ecological and archaeological value out of the proposed development.

Recognising the importance of this area the agent RPS stated in the environmental statement section 4 "Focused environmental surveys helped to identify locations within the larger land holding which were more sensitive to development. In accordance with their robust approach and commitment to environmental excellence Elgin excluded these from development.



Consultation map with area around the lake and Rath excluded from development

Elgin then did an environmental U-Turn and submitted the planning application to include the sites sensitive to development



Planning application submitted with environmentally sensitive sites around the lake and Rath included.

ANY SUPPORT FOR THIS APPLICATION WAS BASED ON THE PROPOSAL

**WITHOUT THE ENVIRONMENTALLY SENSITIVE PORTIONS OF LANDS.
THIS APPLICATION MUST GO BACK TO PUBLIC CONSULTATION TO INCLUDE
THE PORTIONS OF LAND AROUND THE LAKE AND RATH.**

Pre Application Discussion (PAD) Process

DOE Planning NI operate a pre application discussion (PAD) initiative for strategically important planning applications to improve the quality of those applications and to speed up the decision making process. The PAD process enables the Department to provide general advice and identify key issues that need to be considered as part of the planning application.

At the pre application stage the most sensitive environmental and archeological areas were omitted from the development site. These were only introduced immediately before the application was submitted and did not form part of the Pre Application Discussion.

THIS APPLICATION MUST BE REFUSED. THESE AREAS ARE PROTECTED PEATLAND AND HABITAT FOR PROTECTED FLORA AND FAUNA.

3. Alternatives

This Chapter of the Environmental Statement (ES) describes the main alternatives considered as part of the development of proposals for Kells Solar Farm as required under Environmental Impact Assessment (EIA) Legislation

The agent failed to consider alternative sites. In the PreAPP file Breen Associates claimed that they had looked at sites throughout Northern Ireland. No one could ever produce evidence of these other sites.

Alternative sites are discussed in section 4 of our response to the ES.

THIS APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE APPLICANT FAILED TO COMPLY WITH EIA LEGLISATION

Topography: When placed on site all panels will be orientated to face southwards thus maximising the potential output based on the daily trajectory of the sun, east through south towards west. Accordingly south facing lands are preferred for proposals of this type.

THIS CANNOT BE ASSESSED. NO BLOCK PLAN HAS BEEN SUBMITTED.

Proximity of Dwellings: The greatest potential for impacts on dwellings and population centres generally manifest in terms of noise, glint and glare, air quality and visual impacts. Whilst efforts are made to choose sites which are as well separated from a proliferation of dwellings as is reasonably possible on the grounds that this minimises potential for sources of objection and conflict, given the settlement pattern within Northern Ireland it is not always possible. Assessments in respect of noise, glint and glare, air quality and visual impacts are included in Volume I of the ES, Chapters 13, 10, 16, and 6, respectively.

IT IS POSSIBLE TO CHOOSE SITES IN NORTHERN IRELAND THAT WILL NOT IMPACT ON RESIDENTIAL DWELLINGS. THE APPLICANT CHOSE THE SITE BECAUSE OF ITS PROXIMITY TO THE GRID.

HAD THE APPLICANT LOOKED AT ALTERNATIVES HE COULD HAVE FOUND A SITE THAT DID NOT IMPACT ON RESIDENTIAL PROPERTIES.

Nature conservation constraints: In many cases, the presence of ecological interests of acknowledged importance is indicated by nature conservation designation. The Kells site does not overlap with any statutory or non-statutory nature conservation designation. A full Terrestrial Ecology and Ornithology assessment is included in Chapter 7, Volume I of the ES document.

THE SITE CONTAIN PEATLANDS, A LAKE AND MANY PROTECTED SPECIES OF FLORA AND FAUNA. THE AREA DOES NOT HAVE TO BE DESIGNATED. REFER TO LETTER FROM NIEA DATED 7th May 2014 “Due to the potential for protected species on site and the proximity of the site to a designated area, please note that this proposal is subject to the conservation Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) (known as the Habitat Regulations).

Refer to NIEA letter of 6th August 2014. This proposal is subject to the Habitats regulations. We would refer the department to DOE Priority Habitats April 2015 and the Survey requirements. Just because an area is not mapped it should not be utilised to infer the complete coverage of these environmental assets in Northern Ireland

The applicant has totally failed to consider or comply with any recommendations or requests in the same NIEA letter under the heading Ornithology.

In the same letter NIEA refer to habitats of protected species. Everyone including the landowner and his solicitor are aware that there are protected species of flora and fauna on this site. The agent finds little evidence and refers to it as insignificant.

This letter from NIEA covers very many more areas of extreme environmental concerns.

The applicant cannot comply with NIEA requirements. Environmental constraints could hinder his ability to make millions from ROC payments and must be considered insufficient.

Also in appendix 3.1 rivers agency ask for a drainage assessment. (Letter of 10 April 2014)

KellsVOCAL believe that the concentrated runoff from 200,000 panels i.e. 380,000m² = 38 acres of glass has not been properly assessed.

In low lying areas flooding could rise above the wiring under the panels. Once again in the absence of fully annotated plan and cross sections the risk of flooding cannot be assessed,

IS INSUFFICIENT INFORMATION TO ASSESS THE RISK OF FLOODING.

Also in appendix 3.1 letter of 12 August 2014 NIEA ask for a visual impact assessment. This was not carried out in winter when the trees have shed their leaves.

THIS LIVA MUST BE REDONE WHEN THE TREES ARE BARE.

AN ASSESSMENT MUST BE MADE OF ALTERNATIVE SITES

Also in appendix 2 3.2 RSPB by letter of 29th July ask for specific bird surveys to be carried out. Furthermore there is a disclaimer on the bird surveys.

As stated in the RSPB Letter Using the precautionary principle the surveys cannot be relied on and are worthless.

THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT TERRESTRIAL AND ORNITHOLOGICAL SURVEYS HAVE NOT BEEN CARRIED OUT.

Further Environmental Constraints: In addition to those landscape, visual, and natural heritage constraints as well as those referred to in respect of dwellings above, the site selection process is undertaken cognisant of further constraints including flooding regime, archaeological and cultural heritage resource and potential impacts on ground water and fisheries interests.

THE MAJORITY OF WHICH HAVE BEEN IGNORED. PLEASE REFER TO THE RESPONSE TO EACH ES SECTION.

Availability of land: Solar farm developments rely on the developer's ability to reach a commercial agreement with the current owner of the land. When considering potential sites for development Elgin Energy require land holdings of between 50 and 300 acres. Whilst these need not necessarily be within sole party ownership, this is often preferred. Whilst many landowners are interested in the potential of solar energy as a form of land diversification, there are others who are not. Appropriate land agreements are in place at the Kells site.

NO ALTERNATIVES WERE CONSIDERED DESPITE EIA LEGISLATION REQUIRING THIS TO BE DONE

Access: Unlike other renewable wind projects (wind etc.) solar farms do not require the delivery of any abnormal loads to the site. Rather all components will be facilitated by standard HGV. The site is well connected to the local road network. It is anticipated the delivery route for components will be via the Doagh Road leading onto Whappstown Road.

WHAPPSTOWN ROAD IS AT BEST 4m WIDE THERE ARE BENDS AND HILLS. IT IS TOTALLY UNSUITABLE FOR THE PREDICTED VOLUME OF HEAVY TRAFFIC.

THE JUNCTION OF THE WHAPPSTOWN ROAD TO THE DOAGH ROAD IS APPROACHED BY A BLIND SUMMIT. THERE HAVE BEEN NUMEROUS ACCIDENTS INCLUDING TWO FATALITIES AT THIS JUNCTION.

REFER TO OUR RESPONSE TO THE DESIGN AND ACCESS STATEMENT.

THE AGENT / AGENT HAS NOT CONSIDERED THE CUMULATIVE EFFECTS OF FOUR WINDFARMS TWO OF WHICH HAVE RECEIVED PLANNING PERMISSION SINCE THIS APPLICATION WAS LODGED.

THE PROPOSED SITE IS A PRIORITY HABITAT FOR SPECIES SUCH AS CURLEW, LAPWING, SNIPE, SKYLARK, GREY HERON, BUZZARD, OTTER, BADGER, IRISH HARE.

THE SITE HAS BEEN ASSESSED AS AN AREA OF HIGH ENVIRONMENTAL VALUE.

PLANNING PERMISSION CANNOT BE GRANTED TO DESTROY THE HABITAT OF PROTECTED FLORA AND FAUNA.

PLANNING PERMISSION CANNOT BE GRANTED TO COVER 250 ACRES OF BEAUTIFUL COUNTRYSIDE WITH PANELS THAT PRODUCE A MINIMUM AMOUNT OF ELECTRICITY.

THIS APPLICATION MUST BE REFUSED OR ALTERNATIVELY A PUBLIC INQUIRY MUST BE CALLED TO ASCERTAIN THE VALIDITY OF THE CLAIMS MADE BY THE APPLICANT.

KELLSVOCAL RESPONSE TO DESIGN AND ACCESS STATEMENT

The Design and Access Statements April 2015 - Practice Note 12 – point 1.1 of Introduction states that:

‘A core planning principle of the reformed two-tier planning system is to support good design. The planning system therefore plays a significant role in making successful places through its influence on the type, scale, location and design of development, and the use of land. A design and access (D&AS) statement is a report accompanying and supporting a planning application. It provides a framework for applicants to explain how a proposed development is a suitable response to the site and its setting.’

The new SPPS for Northern Ireland - point 4.27 states that:

‘Planning authorities will reject poor designs, particularly proposals that are inappropriate to their context, including schemes that are clearly out of scale, or incompatible with their surroundings, or not in accordance with the LDP, or local design guidance.’

The Kells Solar Power Station proposal is, unquestionably, a poor design – inappropriate in context, clearly out of scale, incompatible with its surroundings. It is not in accordance with the existing Ballymena or Antrim Area plans. Nor can it be claimed to be in accordance with the Community Plans, LDPs, or Statements of Community Involvement for the new Council areas as they have not been drawn up yet by Mid and East Antrim or Antrim and Newtownabbey Borough Councils.

KellsVOCAL has read and considered the Design and Access Statement accompanying planning application LA03/2015/0234/F and finds the design of this proposal to be fundamentally flawed due to its size, rural location, unacceptable impact on visual and residential amenity, and likely destructive impact on landscape and biodiversity



We find that the Design and Access Statement:

Does not demonstrate good design and place making

Does not demonstrate respect for the local environment

Does not provide clear, adequate, or accurate information

Does not demonstrate meaningful consultation with those likely to be most affected by the development

Is notable for the omission of vital information

KellsVOCAL has the following comments, requests for information/clarification, and objections:

Point 1.1 of the Introduction states that Elgin Energy ‘seeks to develop a solar farm with a total generation capacity of 50MW’

Point 8.5 of the Conclusion states that “the project will have the capacity to generate enough electricity for around 15,000 houses”

Due to the way these statements are worded, an average person reading it, would reasonably assume that the solar station would be generating 50MW all the time. What the applicant fails to do, and repeatedly fails to do, in brochures, press statement, public meetings etc., is explain what they actually mean by capacity

‘Capacity is the maximum electric output a generator can produce under specific conditions. Nameplate capacity is determined by the generator’s manufacturer and indicates the maximum output a generator can produce without exceeding design thermal units.

‘Generation is the amount of electricity a generator produces over a specific period of time. For example, a generator with 1 megawatt (MW) capacity that operates at that capacity consistently for one hour will produce 1 megawatt hour (MWh) of electricity. If it operates at only half that capacity for one hour, it will produce 0.5MWh of electricity.’ www.eia.gov/tools/faqs/faq.cfm?id

'The Capacity factor of a power plant is the ratio of its actual output over a period of time, to its potential output if it were possible for it to operate at full nameplate capacity continuously over the same period of time. To calculate the capacity factor, take the total amount of energy the plant produced during a period of time and divide by the amount of energy the plant would have produced at full capacity. '

www.eia.gov/tools/faqs/faq.cfm?id

'The capacity factor of some renewable energy sources such as solar power, wind energy and hydroelectricity, will be lowered when their "fuel" (sunlight, wind and water) is not available'.

'Solar energy is variable because of the daily rotation of the earth, seasonal changes and because of cloud cover.'

https://en.wikipedia.org/wiki/Capacity_factor

For Example:

'The existence of night-time means that solar capacity factors must be less than 50%, and then when you add clouds, dawn, dusk and non-optimal installations, 18% is the average capacity factor for panels in the continental US. In contrast, Germany's total solar capacity factor in 2011 was under 9%' (ref: Should Other Nations Follow Germany's lead on Promoting Solar Power?

www.forbes.com/sites/quora/2013/10/04/should

Thus, solar generated electricity is not produced either continuously or at the same level. To begin with, it cannot generate at all at night so the capacity is zero during the hours of darkness. The amount of electricity generated during daylight hours alters constantly according to time of year, length of day, angle and height of the sun in the sky relative to the angle of the panels, cloud cover, rain, snow, dirt on/or damage to panels etc. The Met Office advises that estimated cloud cover in Northern Ireland is approximately 70 % per annum. Anyone who has solar panels in a domestic or commercial rooftop setting will be aware of how little output there is on dark winter mornings and afternoons, wet and overcast days or dry and cloudy days. (And we are all only too familiar with how many of those we get in N Ireland.

Solar energy developers, including Elgin, are very keen to stress that sunshine is not necessary for generation but that solar irradiation will ensure generation throughout daylight hours. Common sense, however, will inform anyone that the amount of electricity generated will vary greatly across the day and year. Whether generation is measured using levels of sunshine, solar irradiation or solar insolation, generation will fluctuate continuously according to the weather conditions and time of day/year.

It is also very much lower at the latitude of the proposed development than the southern counties of Ireland or the UK mainland or Germany, Italy, Spain etc.

In the Non-Technical Summary- Predicted Solar Resource, it states:

'The Irish Solar Energy Association's submission for the Green Paper on Energy Policy in Ireland, addresses the question of whether the climate on the island of Ireland has enough sun to support solar installations. Section 1 states that "the solar radiation in Wexford is 78% of the level enjoyed in Madrid and is equivalent to the levels found in the most of the UK" Although there are reductions in output as one travels north, the project has been assessed as financially viable by the developer. Accordingly solar energy installations are deemed to be viable across Northern Ireland as a region, and the available solar resource remains fairly uniform depending upon localised site conditions.'

KellsVOCAL makes the following points regarding this quotation:

1. Wexford has been chosen by the Irish Solar Energy Association because it is the sunniest county in all of Ireland. It is, therefore, not indicative of Ireland as a whole. At around 1600 hours of annual sunshine it, in fact, gets about 59% of the sunshine enjoyed by Madrid (2700 hours) – not the 78% quoted above.
2. To imply that Wexford, in the bottom southeast corner of ROI is not very much different from the site of the proposed development, is completely incorrect because the Co. Antrim uplands have about 1100 hours of sunshine per annum –roughly 300 less than the 1400 hours of sunshine annually than coastal Co Down enjoys and **500 hours per annum less than Wexford**. Northern Ireland is cloudier than the rest of the UK because of the hilly nature of the terrain and its proximity to the Atlantic Ocean. **Thus there are indeed reductions as one travels north.**
3.
The Climate of Northern Ireland. www.h2g2.com/approved_entry/A1029269
4. RPS states that 'although there are reductions in output as one travels north, the project has been assessed as financially viable by the developer'. However, the financial viability of the proposed development has not been determined by the cloudy location or the upland latitude, but by the availability of lucrative ROC subsidies. **Without the subsidies it would not be financially viable at this latitude.**

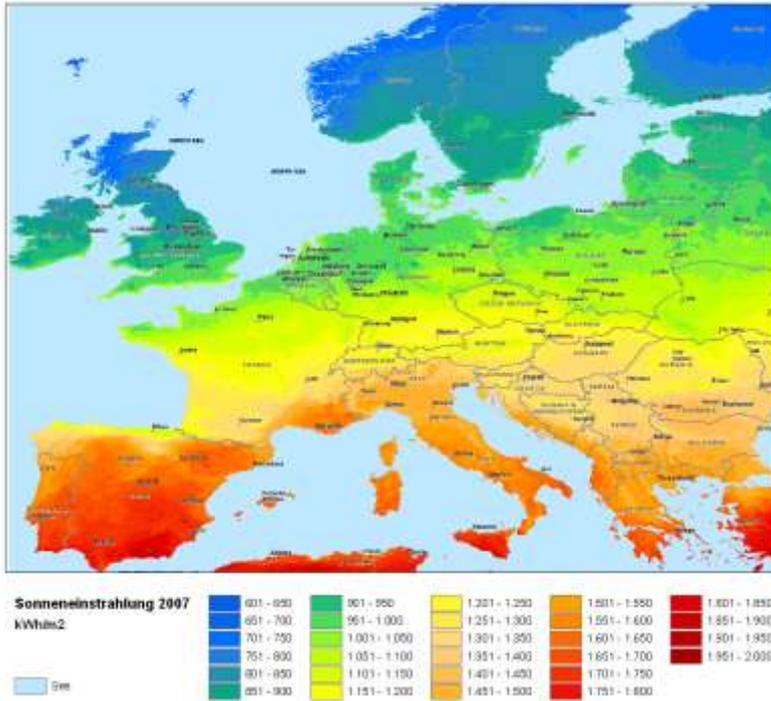
5. It is not at all clear what information RPS is trying to impart when it states that:
'the available solar resource remains fairly uniform, depending upon localised site conditions?'

KellsVOCAL's translation is that 'sunshine levels vary according to local conditions'. The local conditions determining 'solar resource' would be topography, time of day, time of year, prevailing weather and exact location in Northern Ireland, and these would definitely ensure that sunshine levels were not fairly uniform across the region or the year.

Please request that the agent provides details of the actual reduction of solar radiation as one travels north. The applicant has no experience of either building or operating a large scale solar power station at this latitude in Northern Ireland and must be able to demonstrate clearly how the reduction in solar insolation at this latitude would affect electricity generation levels.

This information is vital to the application as it assists in determining the actual amount of electricity generation at this latitude and thus, the economic benefits, or otherwise, of the proposal to be weighed against the cost to Northern Ireland of 25 years of ROC subsidies.

The map below shows clearly the vast difference in solar insolation between north Antrim, Co Wexford, the southern counties of England and Spain.



Solar insolation map of Europe illustrates that even when using solar insolation as a measurement, Co Antrim is a very different solar proposition from Wexford, southern England and Spain,

Using plain old fashioned sunshine as a measurement for solar viability at this latitude, the Co. Antrim uplands have about 1100 hours of sunshine per annum –roughly 300 less than the 1400 hours of sunshine annually that coastal Co Down enjoys. The Climate of Northern Ireland. www.h2g2.com/approved_entry/A1029269

This is much less than Rosslare in Co Wexford, ROI, which has an average of 1599 hours sunshine per annum. <https://en.wikipedia.org/wiki/Rosslare>

UK as a whole has an average annual of 1339 hours sunshine www.en.wikipedia.org/wiki/climate

But in the south of England where most of the solar stations are located the levels are much higher e.g.

Newquay in Cornwall gets 1743 annual hours sunshine. www.currentresults.com>Europe>UK

Exeter gets 1747 hours, Oxford gets 1578 hours www.currentresults.com>Europe>UK

Whereas Madrid, Spain has around 2700 annual hours sunshine per annum <https://en.wikipedia.org/wiki/madrid>

Thus, it is evident that the proposed development site would get less than half the hours of sunshine annually that Madrid enjoys, approximately 650 less hours of annual sunshine than Cornwall and roughly 500 hours less than Co Wexford.

The Department must investigate the applicant's electricity generation claims in order to ensure that they are based on the correct "solar resource" figures for the exact latitude of the proposed development.

Germany gets an average of just over 1500 hours of sunshine annually. Its total solar capacity factor in 2011 was under 9%. (I.e. Produced 9% of the electricity that it would have produced if optimum/peak generation was possible 24 hrs. a day, 365 days a year). www.forbes.com/sites/quora/2013/10/04/should

Should Germany's low Capacity factor not raise concerns about how low the Capacity Factor is likely to be in the Tardree Upland Pastures and the Tardree and Six Mile Water Slopes, where there is likely to be around 1100 hours of sunshine annually?

50 MW is the Installed or Nameplate Capacity of the proposed development. This means that when the sun is directly overhead on a summer day with a clear blue sky, there is the potential to generate this amount of electricity. At other times this will vary greatly and continuously.

As the D&AS is supposed to summarise the proposed development and set it in context, KellsVOCAL believe that it should have provided a more accurate indication of what is meant by capacity by explaining that this solar station would have the capacity, at this exact location in Northern Ireland, of 50MW only during fairly rare periods of optimum sunshine.

KellsVOCAL notes the consultation responses of Mid and East Antrim Environmental Services and Antrim and Newtownabbey Environmental Health Section., which both state, with regard to inverters:

'In addition, it is noted that the largest unit has a stated power of 500kw. Section 13.4.2 of the ES states that 40 inverters are to be located within the proposed development i.e. $40 \times 0.5 \text{ MW} = 20 \text{ MW}$. However, the proposed development is for a total generating capacity of 50MW. The applicant is requested to confirm the number and size of each inverter and provide representative noise level data.'

Please request that the agent submits these details to the planning portal so that they can be assessed prior to any decision being made.

Please request that the agent also confirms the MW size of the proposed development in the light of the consultation responses from the Environmental Health sections of both Councils.

KellsVOCAL objects that the information provided regarding inverters is misleading and requires immediate clarification as it throws into question the accuracy and validity, not only of the electricity generation figures, the CO₂ abatement figures and the number of houses that could be supplied but also the validity if the planning application itself.

The BRE Planning Guidance for the development of large scale ground mounted solar PV systems – Appendix B states:

‘Planning applications for commercial scale solar development should be accompanied by the following information.

Installed Capacity (MW)

Capacity Factor

Estimated Annual Production (MWh per annum)

Number of residential properties electricity equivalent.’

The applicant has, importantly, failed to give any indication of the Capacity Factor. This vital figure is *‘the ratio of actual output over a period of time, to its potential output if it were possible for it to operate at full nameplate capacity continuously over the same period of time. To calculate the capacity factor, take the total amount of energy the plant produced during a period of time and divide by the amount of energy the plant would have produced at full capacity.’*

Germany had a solar capacity of just 9% in 2011. It has average annual sunshine hours of around 1500-1600 hours depending on which part of the country you look at. (Ref: Total Annual Sunshine in European Cities – www.currentresults.com/Europe/Cities/.)

‘The existence of night-time means that solar capacity factors must be less than 50%, and then when you add clouds, dawn, dusk and non-optimal installations, 18% is the average capacity factor for panels in the continental US. In contrast, Germany’s total solar capacity factor in 2011 was under 9%’ (ref: Should Other Nations Follow Germany’s lead on Promoting Solar Power?

www.forbes.com/sites/quora/2013/10/04/should

The County Antrim upland areas have roughly 1100 hours annual sunshine. So with 400-500 hours less sunshine annually than Germany, which had a Capacity factor of 9% in 2011, it is to be expected that the capacity factor for the proposed Kells Solar Power Station would be substantially less than German’s 9%.

This development would straddle the Tardree Upland Pastures and Tardree and Six Mile Water Slopes LCAs These areas are located, indisputably, in the northern part of Northern Ireland where according to the Met office:

‘The dullest parts of N Ireland are the upland areas of the north and west, with annual average totals of less than 1100 hours (sunshine).’ www.metoffice.gov.uk/climate

The met office also advises estimated cloud cover in Northern Ireland is approximately 70% per annum. www.metoffice.gov.uk/climate/uk/ni/

If the applicant has the expertise they claim in designing and building Solar Power Stations on the UK mainland then it should be a simple exercise to provide an indication of what it anticipates the capacity factor to be for a 50MW solar facility at this specific latitude, along with the instructions, data and calculations used, so that we and the Department can assess the accuracy of the capacity factor figure. This is vital information, not only for KellsVOCAL, but also for the Planning Department, in determining the likely generation MWh per annum and thus, an accurate assessment of the socio-economic significance of this proposal.

KellsVOCAL has written to the applicant on several occasions asking for a breakdown of all of these figures so that we can make an informed assessment of this application but Elgin has consistently failed to provide them.

In the interim KellsVOCAL calculates that:

'A generator with 1 megawatt (MW) capacity that operates at that capacity consistently for one hour will produce 1 megawatt hour (MWh) of electricity.'

www.eia.gov/tools/faqs/faq.cfm?id

Thus, a 50MW solar power station operating at full capacity (optimum conditions) would produce 50MWh in one hour.

Therefore, a 50MW solar power station operating at full capacity (optimum conditions) over a year would generate

50MWh x 24hrs x 365 days = **438,000** MWh per annum

The applicant states that the proposed 50W station will generate 49,000,000 KWh or **49,000** MWh per annum i.e. 49,000 MWh. (actual generation

In order to calculate the capacity factor we take the total amount of energy the plant actually produced during a period of time(a year) and divide by the amount of energy the plant would have produced at full capacity.'

$\frac{49,000 \text{ MWh}}{438,000 \text{ MWh}} \times 100 = 11.18\%$

438,000 MWh

Thus KellsVOCAL calculates that the applicant has assigned the proposed solar station a capacity factor of 11.18%. This figure is highly unlikely. If, with average annual sunshine hours of 1500-1660, Germany has a capacity factor of 9% of Installed Capacity, then how could the proposed development, straddling the Tardree Upland Pastures and the Six Mile Water and Tardree Slopes LCAs, with approximately 1100 hours annual sunshine, possibly have a capacity factor of 11.18%?

Based on the capacity factors and annual sunshine/solar insolation/solar irradiance for other areas of the UK and Europe, KellsVOCAL estimates that the capacity factor for the proposed development is more likely to be around 6-7%.

This estimate is supported by figures collected by the Department of Energy and Climate Change on the capacity factors for various types of plant in the UK. In 2007-2012, photovoltaic power stations across the UK had an average capacity of 8.6 % compared to 27.5% for wind power plants, 33.7% for hydroelectric power stations. Solar power stations in the sunniest parts of SE England would have a higher capacity factor than 8.6% whereas less sunny areas would have correspondingly lower capacity factors.

The following figures were collected by the [Department of Energy and Climate Change](#) on the capacity factors for various types of plants in UK grid^{[29][30][31][32]}

Plant type	2007	2008	2009	2010	2011	2012	2013	2007–2012 average
Nuclear power plants	59.6%	49.4%	65.6%	59.3%	66.4%	70.8%	73.8%	61.9%
Combined cycle gas turbine stations	64.7%	71.0%	64.2%	61.6%	47.8%	30.3%	27.9%	56.6%
Coal-fired power plants	46.7%	45.0%	38.5%	40.2%	40.8%	56.9%	58.4%	44.7%
Hydroelectric power stations	38.2%	37.4%	36.7%	24.9%	39.2%	35.8%	31.7%	33.7%
Wind power plants	27.7%	27.5%	27.1%	23.7%	29.9%	29.0%	32.3%	27.5%
Photovoltaic power stations	9.9%	9.6%	9.3%	7.3%	5.1%	11.2%	10.2%	8.6%
Marine (wave and tidal power stations)			4.8%	8.4%	3.8%	8.3%	9.7%	
Bioenergy power stations			56.5%	55.2%	44.8%	47.9%	58.0%	

https://en.wikipedia.org/wiki/Capacity_factor

In the absence of any clarification from the applicant, KellsVOCAL advises the Department that the estimated capacity factor for the proposed development is 6-7%. If this is the case, then the applicant’s annual KWh/MWh figure is thrown into question.

KellsVOCAL calculates that with a capacity factor of 6-7%, a 50 MW solar station is likely to generate not 49,000,000 KWh /49,000MWh per annum, but 26,280 - 30,660 MWh or 26,280,000 – 30,660,000 KWh per annum. If this is the case, then the figures for houses supplied and tonnes CO2 saved would also have to be recalculated accordingly and would be much lower than those submitted by Elgin with the planning application.

Please request that the agent submits the following information so that it can be assessed prior to any decision being made:

1. Details of how the annual electricity generation of 49,000,000 KWh per annum was calculated
2. Details of the annual solar insolation, solar irradiation and /or sunshine figures that it has used to calculate generation figures for the exact location and latitude of the proposed development
3. The likely generation Capacity Factor for the proposed development and how this was calculated.
4. Clarification as to what exactly is meant by supplying / powering houses. Details are required as to the likely hours per day that electricity could be supplied to these houses at different times of year and in different weather conditions
5. Details of how the number of tonnes CO2 savings was calculated

Accurate and clear details are vital so that KellsVOCAL and the Department can properly assess the environmental, economic and social benefits or otherwise of this proposal.

KellsVOCAL seeks clarification from the Department as to whether or not it has carried out an independent examination of Elgin's figures regarding MWh p.a. Or of the number of houses that can be supplied and for what proportion of the days throughout the year at this precise latitude – or indeed of the figures for CO2 savings.

KellsVOCAL asks the Department to provide details of the independent information that it will use to inform its decision making because the people who would be most directly affected by this development have the right to know if the applicant's generation claims have been subject to robust independent examination.

KellsVOCAL holds the view that electricity consumers who would have to absorb the cost of 25 years of ROC subsidies into their utility bills have the right to more detailed information from the applicant regarding the actual amount of electricity that they would be getting for their money.

2. Project Summary

Point 2.1

In the T/2014/0089/PREAPP - EA Determination Sheet – the Case Officer states that:

“The description of the revised proposal outlines that the site for the solar farm is now 84.7 hectares in size (reduced from 232 hectares)”

Elgin, in their Newsletter for the Kells Solar Project - summer 2015 states:

“The final design is 10% less than the original Solar Farm”

Yet point 2.1 of the D&AS states:

“It is proposed to install a solar PV farm.....on an area of agricultural land measuring 94.9 hectares”.

However in the CEMP Document Control Sheet – ES Volume 2 Appendix 2.2 -Project Summary, Point 1.2, it clearly states:

“In June 2015, Elgin Energy ESCO Ltd (Elgin) submitted an application for planning permission to build a solar farm with a maximum generating output of 50MW on an area of agricultural land measuring 116.5 hectares in area’.

KellsVOCAL calculates that the development has therefore not decreased but increased by a staggering 31.2 hectares or 77 acres from the original site plan outlined in the pre-application.

Please request that the agent submits clarification regarding the size of the development site.

The Planning Application form P1 also gives the area of the site as 94.9 hectares, thus KellsVOCAL seeks clarification from the Department regarding the actual size of the site as this has a bearing on whether Elgin’s planning application has been validated containing incorrect information.

Point 2.2 Main Components

BRE Guidelines state that:

‘There are a number of elements associated with a solar farm development which have the potential to influence the significance of the impacts on landscape character and visual amenity.....including colour of the panel’s surrounding frame’.

RPS has omitted to give details of the type of solar panels, their colour, and their frames. This is a vital omission regarding visual impact and public health. Solar panels are manufactured in a variety of ways, producing toxic chemicals into the atmosphere at source and also contain various hazardous materials encased within them which have serious public health implications at construction, operation and decommissioning stages. KellsVOCAL requires full details of the type of panels that would be used, as its members, their children and grandchildren, would be forced to live in close proximity to them for a minimum of 25 years.

The applicant proposes to deploy 200,000 solar panels across the landscape. KellsVOCAL requires details of the colour of the panels and the type/colour of the panel frames as they will obviously have a huge bearing on visual impact and upon Elgin's ability to ensure physical and visual integration of the proposed development and associated features into surrounding landscape.

Please request that the agent submits details of the colour and type of the solar panels and the colour of the frames so that this information can be assessed prior to any decision being made.

Point 2.2 Perimeter post and wire "deer fencing" (2.45m high)

In Appendix 3.2 - Community Engagement Report, point 3.1.2 RPS states that one of the concerns expressed by KellsVOCAL was that:

'The security fencing proposed is unacceptable.'

KellsVOCAL is indeed concerned about 5 miles of any 2.45 m fencing topped with 30 CCTVs ranging along the perimeters of dwellings and gardens. Elgin proposes to substitute deer fencing which it states on its web page Overview 1.9 *'is a change following the public consultation event'* (11th November 2014)

However, KellsVOCAL believes that there is a serious potential for electrocution for people or animals within a solar PV site. Unauthorised entry – whether from criminal gangs, vandals or local children - to a solar power station of this magnitude could not be prevented by deer fencing with a minimum gap of 150 mm at the bottom. KellsVOCAL wish to make it clear that while being opposed to 5 miles of any type of high fencing topped with security cameras around their homes, the proposal to substitute deer fencing was not at its request.

In Point 7.5.2.3 of Terrestrial Ecology and Ornithology, it states:

'All security fences will be raised off the ground by a minimum height of 150mm to allow for unfettered passage by ground mammals.'

Common sense will inform anyone that deer fencing with a 150mm gap at the bottom would not be capable of excluding criminals, vandal, pets or a curious child. Over a period of 25 years there would be numerous children growing up and playing across the area who would be in real danger of electrocution on entering the site.

KellsVOCAL has grave concerns about the risk of children straying through or under damaged fencing and asks why RPS has failed to refer to this serious health and safety risk in the D&AS when there is a recognised risk of electrocution from broken /damaged/vandalised panels and wiring.

Please request that the agent submits the following information so that it can be assessed prior to any decision being made:

Why is there no consideration in the D&AS of the health and safety risk to children who might enter the site via the proposed gap under the deer fencing?

Has a formal Hazard and Risk Assessment and a Hazard and Risk Strategy been compiled for the deer fencing?

If it has, please submit full details.

If not, please explain why this is the case.

KellsVOCAL requires the Planning Department to carry out an independent investigation of this serious health and safety risk and to make its findings available on the Planning Portal.

3. Site Description and Context

In its description of the site RPS completely omit to mention the lake and wetlands, early Christian Rath and earthworks at Mann's Hill all of which it proposes to enclose with 9 ft. High solar arrays. This would totally change the character of the landscape, obliterating the perception of archaeological and natural heritage in this open view across to the Sperrin Mountains.

RPS is well aware of the development sensitivity of the lake, although referring to it as a pond, perhaps in order to minimise its significance. In Section six of the ES – Landscape and visual Impact Assessment - Viewpoint M – View west from Whappstown Road RPS states that:

'The proposed development will be visible within the view of this location, seen across a wide portion of the view. The arrays will be visible above the immediate foreground platform, though seen below the middle and distant horizon lines formed by the extensive woodland within the view. The view retains its generally open and panoramic nature with Mann's Hill pond visible among the arrays. Distant horizons retain a visual prominence within the view.'

RPS would also be very well aware of the concerns of NIEA Landscape Architects:

'Environmental effects of particular concern include the potential impact on visual amenity and landscape character resulting from development of an area of land of high amenity value to the west of the Whappstown Road that includes the small lake, wetlands and environs'. (Consultation response 12th August 2014)

Please request that the agent explains the omission of any reference, in the Site Description and Context Section of the D&AS, to the lake, wetlands and archaeological features at Mann’s Hill, as these are clearly recognised, in section 6 of the ES, as being visible ‘among the arrays’ and are certainly prominent within the context of the development. Figure 4.10 Infrastructure Layout June 2015 submitted with the planning application shows the Rath within the development site.

KellsVOCAL finds this omission from the D&AS site description misleading and indicative of poor design.

RPS has also chosen to omit the very important fact that the site plan was changed at the last minute in June 2015 to take in the area which they had previously stated they were leaving out when in November 2014, it stated:

‘Further focused environmental surveys helped to identify locations within the larger land holding which were more sensitive to development. In accordance with their robust approach and commitment to environmental excellence Elgin excluded these areas from development’. Alternatives Section of ES –figure 4.9 Infrastructure layout November 2014)

The applicant subsequently performed a spectacular environmental U-turn and parted ways from its ‘commitment to environmental excellence’ by taking in the sensitive areas around the lake, Rath and earthworks in such an environmentally insensitive manner that their solar arrays would now be deployed across the species rich habitat close to the lake and tight around the archaeologically sensitive Rath.

(See Alternatives Section of ES - Figure 4.10 Infrastructure Layout presented to DOE – June 2015)

KellsVOCAL objects to the inclusion of the Rath, and priority habitats around the lake, in the development site as illustrated in Figure 4.10 Infrastructure Layout presented to DOE June 2015.

Point 3.5 states:

‘Field patterns for both parcels are generally large scale and defined internally by post and wire fencing with woodland and strong hedgerows prevalent within the eastern parcel of land. Views of the site from the wider study are generally limited by the combination of undulating topography, roadside hedgerows, field boundary hedgerows and mixed shelterbelt plantings.’

RPS has failed to mention that perhaps the most visually sensitive part of the development to the south west of the Whappstown Road is bounded externally by post and wire fencing and offers views right over the Maine and Braid Valleys toward the Sperrin Mountains. This is a historic landscape that has remained unchanged over centuries. Elgin proposes to plant a 5 metre hedgerow mix across a length of open countryside where no hedges previously existed.

The traditional hedge mix for this area would include woody species such as ash, beech, hawthorn, sycamore, elder, willow and alder. Over a period of years these would become mature trees standing at great height, obliterating all perception of this historic landscape. All this in an attempt to hide what cannot be hidden in the landscape – row upon row of 9 ft. Arrays of rigid glass panels surrounded by security fencing and CCTVs.

KellsVOCAL objects that there is no stated intention within the decommissioning statement to remove the heavy and standard tree planting, the tree topped bunds, the extensive 5 metre and 7.5 metre mixed hedging around the perimeter or the mixed hedging across the open land opposite 13 and 15 Whappstown Road.

Thus the applicants claim is **incorrect** when it states:

'At the end of the project's operational life the solar farm will be completely dismantled and the site restored to its preconstruction state.'

'At the end of the project's operational life the solar farm will be fully decommissioned. All elements will be removed from site and where possible will be recycled. Any waste generated during the decommissioning process will be removed and transported by a certified and licensed contractor. The site will be restored leaving no permanent visible trace.'

This is incorrect. The remaining visible traces will be the mature trees, hedges, shrubs and tree topped bunds that will have obscured, for a generation and more, the features and elements that presently give these LCAs their distinctive appearance and quality. The loss of perception of the open vistas of the Tardree Upland Pastures and the historic quality of the landscape would have been obliterated. Such blatant disregard of the local landscape character, in the pursuit of questionable socio-economic benefits, is not indicative of the ethos of sustainable development.

Point 6.75 of the new SPPS states:

'Some areas of the countryside exhibit exceptional landscapes, such as mountains, stretches of the coast or lough shores, and certain views or vistas wherein the quality of the landscape and unique amenity value is such that development should only be permitted in exceptional circumstances.'

KellsVOCAL objects to a design plan that would change the character of the area so profoundly and that would submerge the historical and cultural heritage elements of this exceptional landscape in a sea of blue or black glass so alien to the prevailing character of the area.

Point 3.6 states:

“The proposed site does not lie within an area designated as an Area of Outstanding natural beauty. (AONB) The Antrim Hills and Glens AONB, designated in 1988, is located approximately 7 km east of the proposed site.”

RPS is not correct in its assessment because the site does in fact lie within two LCAs that overlap the Causeway Coast and Glens AONB. The development would straddle the Tardree Upland Pastures LCA and the Tardree and Six Mile Water Slopes LCA (Landscape Character Assessment)

In the Tardree Upland Pastures LCA it states:

“This area lies within the Antrim Plateau and Glens.The Tardree Upland Pastures are found on the broad, rounded summits of upper basalt to the southwest of the Larne Basalt Moorland. This is a transitional landscape of, with characteristics of both upland moorland and lowland farmland; the pronounced open valley of the Glenwhirry River is an important local landscape feature.....The north-eastern fringe of this LCA overlaps the Antrim Coast and Glens AONB. This designation is indicative of the scenic quality of the landscape.”

And

‘Four other character areas – Dervock Farm Lands, Ballymena farmlands, Tardree Upland Pastures and Tardree and Six Mile Water Slopes have small portions within the (Antrim Coast and Glens) AONB boundary’ (Causeway Coast and Glens heritage Trust – management Plan 2008-2018)

4. Design and access requirements

Point 4.4 RPS states:

‘It is noted that Practice Note 12 states that ‘the level of information and detail in a D&AS should be proportionate to the scale, complexity and nature of the application.’ In consideration of the guidance and the nature of the application, this D&AS is deemed to be proportionate in its content”

KellsVOCAL totally disagree. It does not find the D&AS at all proportionate to the design and planning of a solar power station which the applicant has described in the Ballymena Times as the largest solar farm in Northern Ireland and one of the biggest in the UK. KellsVOCAL hold the opinion that a power station of this magnitude, the first of its kind in Northern Ireland, requires a more detailed D&AS that demonstrates a level of professional expertise, design quality, accuracy and clarity than is apparent in this document.

Requirements of a Design and Access Statement

The Design and Access Statements – a guide for Northern Ireland states that:

'Throughout the design process, applicants and agents should evaluate and explain how the proposal:

**sustains or enhances local character*

**complements and integrates with the surrounding area*

**promotes innovative design'*

And

'Fundamental to the achievement of sustainable development and wellbeing is the need for good planning, integrated with good design and embracing inclusivity for all members of society.'

The poor choice of site and its associated scale and layout would not meet the requirements of sustainable development because it would remove, for a generation or more, those aspects of landscape that provide local people with their *"sense of place and belonging."* (1st Affirmation for Northern Ireland's Landscapes - NI Landscape Charter)

It would *not* sustain or enhance local character. On the contrary its industrial appearance, materials and infrastructure would be totally alien in nature and would neither complement nor integrate with the surrounding area. It would be totally inappropriate in a deeply tranquil and rural landscape.

Its overbearing nature *could not* be described as innovative design. Five miles of security fencing topped with 30 CCTV cameras, deployed across a traditionally open environment, would create a sense of enclosure that would destroy rather than enhance the wellbeing of those living nearest to it.

It would not be inclusive. On the contrary it would be divisive because some sections of the community would benefit from the applicant's Community Benefits schemes while the people most affected would have imposed upon them an industrial development which they do not want. For some people this would-be for the remainder of their lifetime.

There are several glaring omissions from the D&AS and from the ES. No genuine consideration is given to public health and safety during the operational phase of the site. KellsVOCAL has deep concerns about the potential for criminal activity in and around the site.

BRE planning guidance for the development of large scale ground mounted solar PV systems states:

'Policing experience indicates that placing large quantities of expensive photovoltaic panels in isolated locations without adequate protection will attract criminals and the photovoltaic panels and associated infrastructure will be stolen. The main risk will come from organised gangs who will use heavy duty tools and vehicles to remove large quantities of panels.'

The initial Elgin Energy information states:

'The installation will be monitored remotely and will not require any permanent staff to be located on site. The proposed development requires low maintenance and as such very few trips barring those required to service damage issues or clean the PV panels.'

In view of the risk of criminal activity and the fact that the station would be monitored remotely KellsVOCAL objects has serious concerns that both the D&AS and the ES fail to provide any evidence whatsoever that that the applicant has carried out either a Hazard and Risk Assessment or a Response Strategy relating to criminal activity.

Annex 1 of Practice Note 12 - General Considerations –Sustainability - poses the question to developers:

'Have crime and other risks been minimised?'

Point 4.23 of the new SPPS, Supporting Good Design and Positive Place-Making, lists some of the positive features that can be achieved through good design:

'Good design can change lives, communities and neighbourhoods for the better.....and contribute to how safe places are and feel.'

Residents in the immediate neighbourhood of the proposed development would not feel safe and would not be safe. They are deeply concerned that criminals would try to break into the site, not just directly from the road but from lanes and private property. KellsVOCAL notes the absence of a response strategy for criminal activity and view this as yet another indication of poor design given that there would be 5 miles of perimeter fencing from which thieves could gain access to an unmanned site.

Please request that the agent clarify the reason why there is no evidence in the D&A or the ES of a Hazard and Risk Assessment of Criminal Activity having been carried out or of a Response Strategy having been drawn up.

If such documents exist, please submit details as local residents have deep concerns about the introduction of criminal activity into the local area, solely as a result of this development.

Has the applicant liaised with the PSNI to discuss security at what would be the largest solar power station in N Ireland? Has the applicant registered with the 'Designing Out Crime' Scheme?

If so, please submit details. If not, please explain why this is the case.

KellsVOCAL objects to the omission of a Hazard and Risk Assessment or a Response Strategy for Criminal Activity in either the D& AS or the ES.

5. Design

Point 5.1 Design Principles, states:

'A series of design principles have underpinned the design evolution of this project. These include:

Undertaking development proposals within the existing site constraints including field boundaries, existing vegetation and site topography;'

And

'Areas of greatest environmental sensitivity are excluded from development and a package of environmental management proposals including enhancement measures are integral components of the project.'

KellsVOCAL finds that the initial poor choice of site means that the applicant is simply unable to produce an acceptable design within the constraints of field boundaries, existing vegetation and site topography. Many of the field boundaries are post and wire fencing, or the low intermittent hedging typical of this upland area. In winter there would be an unacceptable visual impact across the whole 250 acres. The topography is such that fields lie into each other at varying angles and heights. The development would run in front of, behind and all around the dwellings of an established rural community. It would stretch from the Doagh Road, up and across the Whappstown Road and all the way over to the Speerstown Road, on undulating land that is totally irregular in shape.

In The ES –Alternatives – Figure 4.9 Infrastructure Layout November 2014, it states:

'Further focused environmental surveys helped to identify locations within the larger land holding which were more sensitive to development. In accordance with their robust approach and commitment to environmental excellence Elgin excluded these areas from development'.

'The illustrated areas to the west of the Whappstown Road surrounding the existing pond (insert box point A - Figure 4.9) as well as an area of species rich marshy grassland to the extreme northwest of the development site (Insert box Point C – Figure 4.9) which it was decided to exclude from the application site boundaries'.

However in Figure 4.10 we find that areas of greatest environmental sensitivity have not in fact been excluded but, on the contrary, included at the last moment, as the applicant scrambled to compensate (itself) for having to move solar arrays back from a stretch of land along the Whappstown road where the post and wire fencing offers an exceptional degree of visual amenity; from the boundaries of dwellings and gardens and from a small glen and watercourse..

In Figure 4.10 –Infrastructure Layout presented to DOE – June 2015, we see that the applicant, in order to squeeze in the highest number of panels possible, has done a complete environmental U-turn and decided to take in the very land that they had previously identified as sensitive to development. The applicant now proposes to deploy solar arrays around the early Christian Rath site and on the wetland habitat close up to the lake at Mann's Hill. This cynical and opportunistic disregard for good design and environmental responsibility is staggering.

Please request that the agent clarifies the changes shown in Figure 4.10 - Infrastructure Layout presented to DOE June 2015 - which indicate that the area around the Rath and lake has now been included. The environmental sensitivity of this area has not altered. What has obviously altered is the applicant's proclaimed 'commitment to environmental sensitivity'.

KellsVOCAL objects to the final site plan put forward by the applicant and finds that the applicant's '*commitment to environmental excellence*' was extremely short-lived.

5.2 Site selection

In T/2014/0089/PREAPP Breen Architects and Consultants (BAC) it states:

'June 2012 – BAC undertook numerous Site Feasibility Assessments located throughout NI. The Kells solar proposal emerged as being the most advanced and feasible project during that period'.

In The Ballymena Guardian November 2014 Elgin is quoted:

'We have worked very hard to find the most suitable location to site a large scale solar farm in Northern Ireland'.

However point 5.2 of the D&AS fails to provide any information about alternative sites across Northern Ireland. Instead they have concentrated solely on a group of land parcels in this immediate area and considered in the pre-application.

'Initial consideration of land parcels within the Kells area focused on a more fractured and extended site area which included the existing land parcel west of Whappstown Road and a portion of the existing site east of Whappstown Road. There were also a series of land parcels under consideration which were located further east beyond Speerstown Road and north of Tildarg Road. In total the initial land parcels considered measured an area of c.185 hectares and included land surrounding the existing Elliott's Hill Wind Farm'.

KellsVOCAL notes that the applicant has used a 'scattergun' approach to this solar power station development, selecting a collection of land parcels in the adjacent townlands of Whappstown, Castlegore and Maxwells Walls. This is clearly illustrated in the lengthy series of site plans (4.62, 4.63, 4.64, 4.65, 4.7, 4.8, 4.9 and 4.10) - a succession of land parcel options which Elgin has added to, subtracted from, pared down and bulked up before coming up with this final, inherently flawed design.

The drivers were proximity to the grid and the willingness of local landowners to lease large swathes of land. The design strategy amounted to nothing more than casting a wide net and waiting to see what could be hauled in. It was advised at the pre-application stage that the parcels of land around Elliott's Hill would not be given planning approval so Elgin simply reappraised the Graham land parcels, extending the eastern portion and squeezing as much solar as possible into a bizarrely shaped site that ran right up to the garden hedges of local residents and tight around an area of species rich land and habitat, lake, wetlands and features of significant archaeological and cultural heritage.

This was the poor "design and place making" that the applicant brought to the table at the public meeting in The Ross Park Hotel in November 2014 in the form of Infrastructure layout Plan 4.9. The site plan demonstrated no regard for the adverse impact of the proposed development upon the lives of the people who would be most acutely affected or any indication of an awareness of the requirements of socially responsible and sustainable development.

In the T/2014/0089/PREAPP consultations, NIEA Natural Heritage states:

'We advise that as part of any EIA process, alternative sites should be considered'.
(Consultation response 12th August 2014)

Schedule 4 -Information for inclusion in environmental statements (Part 1, point 2) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 requires:

'An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for the choice made, taking into account the environmental effects'.

KellsVOCAL finds that the applicant has failed to provide adequate information about Regional and Local alternative sites. There is no information describing or providing a map location for any regional or local sites. The sites which are described are at the 'micro level' i.e. in very close proximity to the development site.

Please request that the agent submits details of the alternative sites considered at regional and local levels so that they can be assessed prior to any decision being made. The sites detailed in the Alternatives Section of the ES fall within the applicants description of 'micro-level' however there are no details of the regional and local sites that BAC claims to have considered throughout Northern Ireland.

Given that would impact for a minimum of 25 years on the lives of the people it represents, and on the lives of their children and grandchildren, it wishes to know where these sites were located, why they were chosen for consideration, the pros and cons of each site and the reasons why each was set aside in favour of this location.

KellsVOCAL objects to the total absence of detailed evidence, of the consideration of alternative regional and local sites, in the D& AS and the Alternative Section of the ES.

Point 5.3 states that:

"Various lands were removed from consideration during the early stages of project development. This was done for a number of reasons including land availability, topography, orientation, visual amenity and grid connection issues".

RPS fails to include the information that an additional reason for land to be removed from consideration was due to its importance for curlews. A pre-application consultation response from NIEA (7/5/2014) states:

“We note that part of the site has already been proposed as an area of mitigation/compensation for Curlew in association with the propose Castlegore Windfarm. In the event of this mitigation plan being approved, the presence of solar arrays on these lands would not be acceptable to NIEA Natural Heritage.”

KellsVOCAL notes that if NIEA considers that solar arrays would be unacceptable on an area of land designated as mitigation for Curlews in the Castlegore wind farm application, then it follows that solar arrays would not be acceptable across 250 acres of land that NIEA clearly also recognises in its consultation responses e.g. Dated 6/8/2014, 13/11/2014, as being important foraging and breeding habitats for Curlews.

‘NIEA holds records of breeding curlew within and near to the proposed development. The curlews nesting in the Kells area represent a significant proportion of the Northern Ireland population, so the loss of breeding sites from this area would be significant to the overall population, especially when considered with windfarm developments in the area.’ (NIEA consultation response 6th August 2014)

NIEA clearly recognises, in its consultation responses, that the proposed development site is a breeding habitat for Curlews. People living in the area are very aware of the annual return of the curlews each spring. We see and hear them all across the area. Whappstown was named for them.

RPS’s failure to highlight the important role of the Curlew in shaping their site choice is noteworthy because, in the ES, it continues to play down the presence of Curlew across the whole of the proposed site. It does this in an attempt to minimise the significance of the Whappstown/Castlegore area as one of the few remaining curlew breeding habitats in N Ireland and thus tries, unsuccessfully, to avoid the depth of environmental scrutiny that this proposal warrants. The applicant is all too aware of the significance of the development site lying within one of the few remaining curlew habitats in Northern Ireland.

Objection: This planning application should therefore be refused because of the recognised adverse impact of solar panels on Curlew habitat.

Pre-application Consultations

Point 5.4

This section of the D&AS is 14 lines long – 10 of them are about traffic.

The remaining 4 lines are all that the applicant deems necessary to summarise all of the remainder of their consultation process.

The D&AS does not provide a balanced account of Elgin's pre-application consultations. In fact it is notable for its omissions.

It omits the central fact that the applicant has failed to carry out any meaningful consultation with KellsVOCAL which was formed to represent around 60 households which would be most directly impacted by this proposal. It refused to meet with KellsVOCAL as a group and failed to answer numerous written requests for the information which KellsVOCAL required, and still requires, in order to shape its response to the proposal e.g. KellsVOCAL has repeatedly asked for details of a similar sized operational solar power station that the applicant has built on the UK mainland, so that a group of its members can travel there and judge for itself the realities of an operational solar power station. Elgin has failed to provide details of any of any of any of its operational sites.

The D& AS omits the fact that Elgin gave insufficient notice of the initial public meeting at the Ross Park Hotel in November 2014. Most local residents received one working days' notice which was totally inadequate. The applicant had obviously undergone a lengthy pre-application process and could have given much more notice of the public meeting. Why didn't it? Was it planned that way so that local people would be unprepared, overwhelmed and unquestioning when presented with such poor PR material as the out-of-date, incorrect maps of the area that showed only a fraction of the dwellings in close proximity to the site?

The D&AS omits the fact that for the subsequent public meetings at Galgorm Manor and the Tullyglass Hotel, Elgin Energy required stakeholders to provide personal details in advance so that they could be grouped in sixes to meet with two Elgin representative and two members of the project team. Many KellsVOCAL members were not comfortable with the idea of meeting with Elgin in this manner and this was made clear to Elgin. Elgin refused to attend an open meeting with KellsVOCAL and stated that it was company policy not to make presentations. However it did feel able to make presentations to both Ballymena and Antrim Councils.

KellsVOCAL objects that the Pre-application Consultation section of the D&AS does not provide an accurate overview of the pre-application consultation as it fails to include the fact that there was no effective consultation at all with the residents most directly affected by the development.

Key Project Components

Solar Panels layout

The solar panels layout will not demonstrate good design. Ground mounted solar PV deployment should ideally be on flat ground and, if this is not available, then on south facing slopes. However the land proposed for this development is broadly northwest facing and as a result the solar arrays would have an obtrusive and uncomfortable appearance because they would not be following the grain of the land.

Point 5.7.

RPS promotes Elgin's "*robust approach and commitment to environmental excellence*" in excluding areas sensitive to development. It omits to add that, since Elgin has had to remove panels from both sides of the Whappstown road and from other locations in the interests of visual amenity, it has now chosen to compensate (itself) by taking in the very area around the lake and Rath at Mann's Hill which it previously identified as sensitive to development and excluded from the development.

Point 5.8. Further layout amendments and design alterations

The substation and inverter buildings have been moved further into the site in a dubious attempt to make them less obtrusive in the landscape. The substation finish would now be more traditional in appearance, but no steps have been taken to lessen the industrial appearance of 40 buildings which have the appearance of large metal shipping containers placed on top of concrete bases. Once again, the applicant's design strategy appears purely reactive. If its design skills were of a higher quality, then it would have put forward an original plan that did not have solar panels within feet of dwellings or a substation on the side of the road in a location of high visual amenity or 40 inverter blocks in full view.

On the one hand RPS states that:

'Views of the site from the wider study area are generally limited by the combination of undulating topography, roadside hedgerows, field boundary hedgerows and mixed shelterbelt plantings'. (D&AS Point 3.5)

Then on the other hand, in Point 5.8, RPS proposes:

'incorporation of a comprehensive package of planting proposals across the entire site'

KellsVOCAL objects to the design quality of a site, the views of which are 'generally limited by topography, hedgerows and shelterbelt plantings' but which at the same time requires 'a comprehensive package of planting proposals across the entire site' in an attempt to lessen its visual impact.

Points 5.10 and 5.11.

'Panels are opaque in nature and are designed specifically to absorb rather than reflect the sun's rays'

RPS has failed to identify, in the D&AS or the ES, the exact colour or type of the solar panels. Would they, for example, be Polycrystalline, Monocrystalline, Thin-Film, Amorphous Silicon, Cadmium Telluride or some other type?

It is vital to have this information because some panels have more associated health and safety hazards than others and people living in close proximity wish to know how they might be affected by risks such as leaching of chemicals from broken or vandalised panels or from the toxic fumes produced by a fire on site.

Please request that the agent submits details of the exact type of solar panels – colour, type, model and manufacturer - that would be installed so that this can be assessed prior to any decision being made.

RPS has peppered the D&AS with illustrations of solar panels and arrays. Would the intended panels be blue, dark grey or black? Would they have white or aluminium coloured frames? Would they look like the ones featured on the front of the document which appear to have white frames all around each panel and thicker ones where arrays are joined together? 200,000 of these would be highly visible in the landscape. Or might they be like those featured at point 5.10 where there appear to be broad white main joints and smaller white diamond shaped insertions at the corner of each smaller section? Once again 200,000 of these would also be highly visible over 250 acres of land. Might they have aluminium frames that contribute to glint and glare impact?

Again, please request that the agent submits information regarding the colour, type, model a manufacturer of solar panels and the colour of the frames so that it can be assessed prior to any decision being made.

In the BRE guidance for the planning of large scale ground mounted solar PV systems, it states that the colour of the panels surrounding frames is one of the elements listed as:

'Having the potential to influence the significance of the impacts on landscape character and visual amenity'

KellsVOCAL is concerned to know exactly which panels and frames the applicant intends to use and questions how effective the Glint and Glare assessment can be when it has not specified which type, design and colour of panels or frames it is actually referring to in the D&AS or ES.

BRE guidance states that:

'The potential for 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 of the materials used in the construction of the solar farm'.

Please request that the agent submits the following information so that it can be assessed prior to any decision being made:

Why were frames and supports not included in the Glint and Glare assessment, contrary to BRE guidance?

What colour would the 40 inverter buildings be and what they material are constructed from?

If the inverter buildings are made of metal, is there a potential for them to cause glint and glare across the development site.

Why were the inverter buildings not included in the Glint and Glare impact assessment?

The Department has no experience of a solar power station of this magnitude in Northern Ireland. KellsVOCAL considers the Glint and Glare assessment is incomplete and unreliable and asks the Department to require the applicant to carry out a new assessment that:

Identifies the type and colour of the panels

Identifies the type and colour of the frames

Identifies the metals used in all of the supports across the whole development

Identifies the colour and external finish of the 40 inverter buildings

Demonstrates adequately an assessment of the combined reflective impact of all of the above

Objection: In the absence of a new and thorough Glint and Glare assessment this planning application must be refused.

Point 5.21 Perimeter Fencing.

RPS affords a mere 5 lines of text to the 5 miles of obtrusive perimeter fencing that would close in 250 acres of farmland and run like a prison enclosure, topped by 30 CCTV cameras, in front of, behind and around the dwellings of an established rural community:

'For security purposes the site will be enclosed by 2.45 high post and wire (deer) fencing. The materials used are chosen to be in keeping with the landscape. Where hedgerows exist or where planting is proposed the fencing will be located on the internal side of said planting to safeguard the visual integrity hedgerows'

It is immaterial whether or not deer fencing is in keeping with the landscape. The developer has failed to adequately assess health and safety at this site.

BRE Guidance states that:

'Fencing which is not of a specialist security type is likely to offer at best only token resistance to intruders'.

To this, KellsVOCAL would add children. Anyone with experience of young children and indeed teenagers will know that post and wire fencing with a gap underneath would be an invitation to explore a solar site, with all the attendant danger of electrocution.

The following information comes from a company advertising their solar panel cleaning services.

'Fact 3: Solar panel cleaning carries a risk of electrocution. Risk of electrocution can come in a variety of ways. Exposed live wires from a substandard install or wires that have been pecked at by birds present another avenue of electrocution. Solar cells are protected only by a layer of glass, if the glass is broken and water enters into the workings of the solar panel, lethal electrocution is a real risk.'

[Http://www.solar-panel-cleaners.com/top-facts-about-solar-panel-cleaning](http://www.solar-panel-cleaners.com/top-facts-about-solar-panel-cleaning)

The hazards identified with cleaning solar panels would also apply to unauthorised adults who might enter the site with criminal intent or to inquisitive children who could handle or play with equipment, totally unaware of the danger.

The potential for children to get into the site is all the more disturbing because it would be unmanned during the 25 year operational phase. By the time that CCTV would detect unauthorised access – across 250 acres of land – and a response was triggered, a tragedy could already have unfolded within the site.

KellsVOCAL seeks the view of the Department on the appropriateness of Elgin's proposed deer fencing.

Please request that the agent submits the following information so that it can be assessed prior to any decision being made:

Full details of the applicants Health and Safety Policy regarding unauthorized access to the site

Full details of its Hazard and Risk Assessment regarding unauthorised access to the site

Full details of its Hazard and Risk Response Strategy regarding unauthorised access to the site

A site requiring 5 miles of security fencing is totally inappropriate within this rural setting and would irretrievably damage the visual, residential and rural amenity of the entire area.

Point 5.22 CCTV Cameras.

RPS has little to say on the controversial subject of CCTV cameras:

'There will be 30 no. CCTV cameras located throughout the site. These will be pole mounted to heights of 3 metres and utilise infra-red technology. They will be directed along the fence, and will therefore avoid impacting detrimentally on nearby residential amenity'

This simplistic description fails to acknowledge any obstacles or constraints to Elgin's proposal to deploy 30 CCTV cameras around the perimeter of this huge site, in proximity to private dwellings and gardens where residents and their children have an expectation of "the right to respect for private and family life, home and correspondence" under Article 8 of the European Convention on Human Rights.

The topography of the development site is such that fields lie at varying heights and angles; the perimeter fence would meander in different directions and heights in and around dwellings and gardens. KellsVOCAL is concerned that, over the course of 25 years, the direction of CCTV cameras could easily change either accidentally or by intent and that unauthorised, inappropriate filming of children, adults and family life could occur. KellsVOCAL requires detailed information regarding the applicant's strategy for monitoring the visual information that is gathered and stored by these CCTV cameras.

KellsVOCAL therefore seeks the view of the Department regarding the potential for inappropriate monitoring of private residences, gardens, adults and, particularly, children. KellsVOCAL is aware of several recent instances where inappropriate filming by remote cameras has been reported to PSNI in Northern Ireland.

Please request that the agent submits the following information so that it can be assessed prior to any decision being made:

Full details of the applicant's Hazard and Risk Assessment and Hazard and Risk Response Strategy regarding the deployment of CCTV cameras on the proposed site. The strategy should include a provision for independent monitoring of the material recorded on its CCTV cameras. The strategy should include arrangements for an independent summary and assessment of the recorded material to be made available on a regular basis for scrutiny by local residents living within viewing distance of the CCTV cameras.

KellsVOCAL objects to the deployment of CCTV cameras all around the homes of its members under Article 8 of the European Convention on Human Rights, 'the right to respect for private and family life, home and correspondence'.

Point 5.23 Access Roads

RPS provides little information about access roads e.g.

'The proposed accesses are existing agricultural accesses, limiting the potential for conflict which may arise from the introduction of wholly new points of access on to the public road'.

What RPS fails to say is that Access B is located at a blind bend directly before a steep hill on this narrow twisting country road and Access A is located just after the same curving hill and just before another blind bend in the road. The three photographs in figure 14.2 of the ES – Traffic and Transportation, all fail to convey the 'blind' nature of the sharp bend or the steep gradient of the hill at Access B on the east of the Whappstown Road or the doubling-up effect of bends both before and after the Access A on the west of the Whappstown Road.

KellsVOCAL objects that the photographs in Figure 14.2 of the ES do not accurately reflect the hazards of the hill and bends on the stretch of road where the accesses would be located.

The Development Management Practice Note 12 – How to prepare a Design and Access Statement states:

'Throughout the design process, applicants and agents should evaluate and explain how the proposalSustains or enhances local characterComplements and integrates with the surrounding area'.

The applicant could not have chosen two worse places for industrial scale site entrances on the Whappstown Road. These are narrow farm entrances which are seldom used except for the occasional tractor, quad bike, silage cutting or slurry tanker. Far from sustaining and enhancing local character or complementing and integrating with the surrounding area, the industrial sized sightlines and security gates required for these two new accesses would totally change the rural character of this narrow rural road.

KellsVOCAL objects to the convenience of two narrow farm lanes being used as a justification for industrial -sized accesses and security gates on a narrow country road.

Point 5.24 states:

'Entrance Gates are set back sufficiently back sufficiently from the edge of the carriageway to allow the largest vehicle which will use the access to stop clear of the carriageway when the gates are closed'.

This very narrow country road is not a 'carriageway' and the repeated use of the term in this document and in the ES is misleading. It suggests that the road is of a size suitable for large vehicles, such as HGVs, to navigate freely when the reality is that the road is narrow to the point where even car drivers have to take particular care when passing each other. Large vehicles would have difficulty passing cars, never mind each other or farm machinery. This would prove hazardous for all road users and would inevitably lead to 'cutting-up' of the verges and banks along the roadside.

For the D&AS to imply that Whappstown Road is anything other than a narrow minor road is misleading.

KellsVOCAL note that the D& AS provides no description of the size, colour, or construction of the entrance gates which clearly highlights a lack of relevant design information. In the absence of any such information, KellsVOCAL presumes that the development would require high metal security gates to protect the site. RPS's failure to describe the gates could perhaps indicate a reluctance to draw attention to the industrial appearance of the site accesses and their adverse impact upon the rural character of this little country road. In the interests of design transparency, the D& AS should have provided a fuller description of the gates.

KellsVOCAL objects that the industrial scale sightlines and security gates required for these two accesses would totally change the rural character of the Whappstown Road.

KellsVOCAL objects to the manner in which the D&AS minimises the impact of the proposed accesses by its use of misleading photographs and text.

Landscaping

Points 5.26 - 5.28

RPS states that the associated Landscape Aims include:

'The physical and visual integration of the proposed development and associated features into surrounding landscape; and screening to minimise visual intrusion where it may occur'

However, in the pre-application consultation response 10th April 2014, NIEA Natural Heritage expresses concern about the integration of the development into the environment:

'NIEA Landscape Architects advise that, due to the topography of the area and the existence of open expansive views, we have major concerns regarding the capacity of the receiving environment to accommodate development of the nature proposed without profound adverse impact on existing landscape and visual amenity'.

And

'The sensitivity to change of the receiving environment is increased by the availability of open elevated views from the surrounding uplands'

The fundamental truth about this proposal is that it is so monstrous in size and shape, so dominant within the landscape, so inappropriate in a tranquil rural community that Elgin have no alternative but to propose:

'Larger sized trees and shrubs to be planted in order to reduce visual impact and provide instant mitigation'

"Mitigation should be in keeping with the existing landscape. Therefore, tree-lined hedgerows and small copses of woodland are considered acceptable and appropriate to the landscape."

KellsVOCAL notes that the 'instant mitigation' proposed would also cause the 'instant obliteration' of the visual amenity that local people value so highly and about which NIEA has repeatedly expressed a high level of concern. RPS fails to convey, in the D& AS, the actual extent of the mitigation measures that the applicant deems necessary to achieve its landscape aim:

'The physical and visual integration of the proposed development and associated features into surrounding landscape; and screening to minimise visual intrusion where it may occur'

These large trees and hedgerows would be imposed in all of the locations with existing panoramic views into the site, where the traditional field boundaries are mainly post and wire fencing or low intermittent upland hedging.

The developer has had to move solar arrays back from the west of the Whappstown Road opposite dwellings no. 13 and 15, where the field boundary along the roadside is mainly post and wire fencing and where the visual amenity is exceptional.

However, in its final site layout plan June 2015, Elgin has introduced extensive new hedging across the middle of this large field, where none previously existed, in an attempt to hide row upon row of 9ft solar arrays that will obliterate a visual amenity that has remained fundamentally unchanged for thousands of years. This same panoramic vista is likely to have been similarly valued and enjoyed by the early Christians who built the Rath at Mann's Hill and the Bronze Age people who erected the standing stone some 2,000 years ago at nearby Carncome.

PPS 21 Sustainable Development in the Countryside states as one of its objectives:

'To conserve the landscape and natural resources of the rural area and to protect it from excessive, inappropriate or obtrusive development and from the actual or potential effects of pollution'

'To promote high standards in the design, siting and landscaping of development in the countryside'

Policy CTY 14 of PPS 21 –Rural Character states that:

'The countryside of Northern Ireland is valued for its intrinsic landscape character, nature conservation interest and built heritage, as well as being a resource for tourism and recreation. While the countryside is constantly changing in response to human activity, the pace of change is now more rapid than ever. This has resulted in the erosion of the rural character of parts of the Region, some of which now appear sub-urbanised and built up due to the cumulative impact of ongoing development. It is crucial therefore to ensure that new building and any ancillary works do not result in a detrimental change to, or further erode the rural character of an area, rather they should seek to maintain and protect the special qualities and unique character of our countryside.'

KellsVOCAL finds that RPS fails to convey the staggering extent of the screening that is proposed around the site because to do so would highlight, all too clearly, the impossibility of integrating this industrial-scale development into the environment without irrevocably changing the special qualities and unique character of our countryside referred to above in CYT 14.

KellsVOCAL objects to the extensive screening measures proposed by the applicant because they would destroy the historic and visual amenity of the landscape within these parts of the Tardree and Six Mile Water Slopes LCA and the Tardree Upland Pastures LCA.

Objection: The Decommissioning Statement does not include the removal of the trees, shrubs, hedges and bunds that the applicant would introduce to the site. If these were not removed then the Decommissioning Statement would be invalid because it would not ensure that the site was completely returned to its pre-development state. As these would have been introduced purely in an attempt to screen the development, it is incumbent on the applicant to remove them at decommissioning in order to restore the visual and residential amenity that they would have removed.

Please request that the agent corrects this omission from the Decommissioning Statement and issues a new Decommissioning Statement, that includes the removal of all introduced trees, shrubs, hedges, shelterbelts and bunds, so that it can be assessed prior to any decision being made.

Point 5.29 - Appearance

RPS manages to summarise the monumental impact of the appearance of a 250 acre solar power station in less than 4 full lines of text in the D&AS.

'Due to a combination of carefully considered site layouts, existing topography and screening and proposed landscape planting mitigation, the majority of views from outside the site will not be subject to a loss of amenity'.

However, in the pre-application consultation response 10th April 2014, NIEA Natural Heritage expresses major concerns about the integration of the development into the environment:

'NIEA Landscape Architects advise that, due to the topography of the area and the existence of open expansive views, we have major concerns regarding the capacity of the receiving environment to accommodate development of the nature proposed without profound adverse impact on existing landscape and visual amenity'.

In Point 5.30 RPS states that:

'The low level nature of the proposed development further limits the potential for visual impact from the surrounding area'.

Nothing could be further from the truth, bearing in mind that this development would be twice the size of the villages of Kells and Connor combined. 200,000 blue or black solar panels set in row after row of 9 ft. High arrays, facing south across 250 acres of undulating northwest facing slopes would be highly visible.

This visual impact was clearly recognised by NIEA Landscape Architects in the pre-application consultation:

'The sensitivity to change of the receiving environment is increased by the availability of open elevated views from the surrounding uplands'

The “carefully considered site layouts,” that RPS refers to, have emerged from a chopping and changing, reactive process whereby parcels of land have been pared down, added in, pulled back and bulked out, with an attempt to squeeze solar panels into every available inch of a bizarrely shaped site that straddles a narrow country road and runs in front of, behind and all around private dwellings. The shape of the site was not design-led, but determined by the irregular layout of 250 acres of farmland that just happened to become available to lease. The topography is that of undulating fields of different sizes, shapes, heights and angles. The deployment of 200,000 solar panels and associated infrastructure across this irregular site could never be satisfactorily absorbed by the receiving landscape. The developer is all too aware of this and has resorted to extensive planting of trees, shrubs, hedging, copses, and huge tree topped bunds in an attempt to conceal the alien and obtrusive nature of the development.

Solar panels come in various colours and styles. RPS and Elgin have not stated the colour of the panels or the frames in either the D&AS or the ES so we do not know if the landscape would be covered in 200,000 blue or black panels with white or metallic frames. What we do know is that grass is green, not blue or black so the change and impact upon the appearance of 250 acres of scenic countryside would be immense. And yet RPS does not consider this even worthy of a mention in the D&AS.

KellsVOCAL objects that the colour of solar panels and frames has not informed the:

Site design

Landscape and Visual impact assessment

Glint and Glare impact assessment

Terrestrial Ecology and Ornithology assessment

Archaeological and Cultural Heritage impact assessment

KellsVOCAL objects that this serious omission, from the Design and Access Statement and the listed impact assessments, renders them all incomplete and unreliable.

KellsVOCAL finds, therefore, that this planning application should be refused on the grounds of an incomplete and unreliable ES.

Point 5.31 states that:

'An Ecological Constraints and Opportunities Plan identified areas of ecological value on site and outlined appropriate management measures to protect and indeed enhance such areas over the life time of the solar farm.....In addition to protecting and enhancing existing features of ecological value new habitats are proposed to be created.....These foremost include new woodland and hedgerow planting as well as reinforcing or supplementing existing 'gappy' hedgerows with new planting.'

Previously in Point 3 of the D&AS RPS stated that:

'Further focused environmental surveys helped to identify locations within the larger land holding which were more sensitive to development. In accordance with their robust approach and commitment to environmental excellence Elgin excluded these areas from development'. Alternatives Section of ES –figure 4.9 Infrastructure layout November 2014)

KellsVOCAL commented that:

Elgin subsequently performed an environmental U-turn and parted ways from their commitment to environmental excellence by taking in the sensitive areas around the lake and Rath in such an environmentally insensitive manner that their solar arrays would now be deployed across the species rich habitat close to the lake and tight around the archaeologically sensitive Rath'. (See Alternatives Section of ES - Figure 4.10 Infrastructure Layout presented to DOE – June 2015)

Elgin's environmental U-turn does not reflect the protection or enhancement that RPS refers to above. Deploying solar arrays around a lake and wetland area and across rough pasture habitat can neither protect nor enhance existing features of ecological value. The way to have done this would have been to exclude these habitats from the development. The development site does not require the creation of new habitat....it requires the protection and preservation of the wonderful habitat that is already there and that would be totally altered by a solar power station.

The reason why Elgin proposes to "include new woodland and hedgerow planting as well as reinforcing or supplementing existing 'gappy' hedgerows" is not to enhance the ecology but to try to hide its solar power station. These 'gappy' hedgerows, so traditional to upland areas of Co Antrim, make living in, or travelling through the countryside more interesting and enjoyable by providing views across the varied landscape – exactly what the applicant needs to prevent when it is struggling to conceal 200,000 blue or black glass panels.

KellsVOCAL members have walked the Whappstown and Speerstown Roads and noted the different types of field boundaries and the variety of species that make up our hedgerows. These were found to include native woody species such as ash, elm, sycamore, rowan, hazel, osier, elder, hawthorn and blackthorn along with honeysuckle, wild raspberry, bramble, fuchsia, whin, lilac, and dog rose. This is by no means an exhaustive list but illustrates clearly the quality of our species rich hedgerows.*This area boasts a variety of long established field boundaries, traditional to the Tardree Upland Pastures and the Tardree and Six Mile Water Slopes LCAs. – namely, the species rich hedgerows and trees, low intermittent hedges, banks, ditches, sheughs and post and wire fencing. For the developer to claim that the deployment of a solar power station could in any way enhance the quality or character of these tranquil and deeply rural townlands simply beggars belief.**

**Species rich hedgerows typically contain five or more native woody species such as oak, ash, hazel, beech, elm, sycamore, and elder'. (Causeway Coast and Glens Heritage Trust website)*

***Townland hedges are considered the oldest, most ancient, hedge type in Ireland. They generally have a greater tree and shrub species diversity and are associated more with woodland areas'. (DOE Planning and Environment, Standing Advice 9 – Hedgerows. April 2015)*

RPS fails to explain in the D&AS that the extensive sightlines would involve the removal of species rich hedgerow and mature trees along 85 metres on the eastern side of Whappstown Rd. The entrance on the western side of the road would be similarly cleared of hedgerow along the length of the site line.

'Any existing trees or hedgerows obstructing the sightline within the area of visibility to be removed and reinstated behind the line of sight from the accesses. (Traffic and Transportation section of ES – Figures 14.3 and 14.4)

KellsVOCAL seeks clarification from the Department about the feasibility of reinstating the same mature trees and long established hedgerows behind the sightlines. Does Elgin mean that it will reinstate the existing trees and hedgerows or plant similar ones? If the intention is to plant new stock then Elgin should recognise that these would take years to establish and that in the interim people would be looking at extensive bare fencing along a lengthy stretch of road.

KellsVOCAL objects to the proposed accesses that would result in the extensive removal of mature trees and hedgerows, the 6 metre set-back of sightlines and the enlarged site areas that would completely alter the rural character of this road.

6. Access

In point 6.2 RPS state that:

“The site access points were preferred due to their status as existing agricultural accesses;

Being preferred by the applicant is not sufficient justification for turning two small agricultural accesses into industrial-sized entrances to a solar power station.

And

“The proposed accesses do not conflict with the policy contained within the relevant development plans for the site.”

This is incorrect.

The Ballymena Area Plan 1986-2001 states:

‘Prominent and dominating access roads, gate pillars and boundary walls or fences, however appropriate in suburban avenues, can be quite out of place in the countryside’. (Page42, point 26.27 of the Rural Area section)

And, with regard to suitable sites or locations for the many land requirements of housing, industry, commerce, education and social and community facilities:

‘The Department aims to ensure that all such developments maintain or improve the pleasant physical environment of the District’. (Ballymena Area Plan - Aims and Objectives – point 2.2)

The applicant could not have chosen two worse places for site entrances on the Whappstown Road. These are narrow farm entrances which are seldom used except for the occasional tractor, quad bike, silage cutting or slurry tanker.

What RPS fails to say is that one of the existing agricultural accesses is on a very bad bend directly before a hill on this narrow twisting country road and the other is located just after the same hill and just before another bend in the road.

KellsVOCAL notes that RPS describes the Whappstown Road as a 'carriageway' in point 5.24 and point 6.4 of the D&AS and presumes this is in order to imply that the road is of a scale that could accommodate industrial sized accesses.

The photographs of the accesses shown in figure 14.2 of the ES – Traffic and Transportation, all fail to convey the 'blind' nature of the sharp bend or the steep gradient of the hill at the access point on the east of the Whappstown Road or the doubling-up effect of bends both before and after the second access on the west of the Whappstown Road. The extensive removal of mature trees and hedgerows, the 6 metre set-back of sightlines, and the enlarged site areas would completely alter the rural character of this road.

KellsVOCAL objects to the misleading photographs which do not accurately reflect the hazards of the hill and bends on the stretch of road where the accesses would be located.

In Point 6.2.RPS also states that:

'The proposed accesses do not conflict with any policy contained within the relevant development plans for the site (i.e. The Antrim Area Plan 1984-2001 and the Ballymena Area Plan 1986-2001)'

However, the Ballymena Area Plan 1986 -2001 – Rural Area states:

'The treatment of the immediate surroundings of a building or dwelling is important. In this connection the Department will look for the minimum felling of hedges and hedgerow trees, when considering the visibility requirements needed to access sites. Prominent and dominating access roads, gate pillars and boundary walls or fences, however appropriate in suburban areas, can be quite out of place in the countryside.'

'Any existing trees or hedgerows obstructing the sightline within the area of visibility to be removed and reinstated behind the line of sight from the access' (Traffic and Transportation section of ES – Figures 14.3 and 14.4)

The extensive removal of mature trees and hedgerows, the 6 metre set-back of sightlines, and the enlarged site areas would completely alter the rural character of this road.

KellsVOCAL finds that the D&AS has not demonstrated the incorporation of positive place-making or good design because the site accesses would indeed be prominent and dominating on this narrow country road.

In point **2.2.16 of the ES – Project Description** it states:

‘During the operational period traffic generation will be minimal and confined to: Occasional maintenance in the event of panel damage or for cleaning the panels; or occasional site visits to substation’.

It is clear that traffic in and out of this site will be minimal during the operational phase. Good design would have recognised that there is no requirement post construction for industrial scale entrances on a narrow country road or for the removal of long established traditional hedgerows. The applicant would have demonstrated better design and environmental responsibility by ensuring that materials were brought to site in smaller vehicles which the existing farm entrances could accommodate.

Throughout the D&AS, RPS state that:

‘A series of design principles have underpinned the design evolution of the project. These include:

“Undertaking development proposals within the existing site constraints including field boundaries, existing vegetation and site topography;”

When it is perfectly clear that traffic to this site would be minimal during its 25 years operational phase, the Department has a responsibility to question Elgin’s assumption that site accesses on an industrial scale would be required on two separate locations on a narrow country road simply because it is convenient to their plans.

KellsVOCAL objects to the applicant’s proposal to destroy the rural character and the visual amenity of the Whappstown Road for what would amount to a mere four month construction phase and considers that the Department has a responsibility to consult further with Transport N Ireland to question the necessity for industrial sized entrances, with extensive hedge and tree removal along lengthy sight lines.

The existing access lanes currently accommodate tractors and trailers, silage harvesting machinery and slurry tankers etc. KellsVOCAL considers that it is the responsibility of the applicant to access the site in a manner that is not in contravention of the Antrim or Ballymena Area Plans or PPS 21, Policy CTY 11 - Rural Character which states:

‘A new building will be unacceptable where:

It is unduly prominent in the landscape

It does not respect the traditional pattern of settlement in that area

The impact of ancillary works would damage rural character’.

Points 6.7 – 6.10 Local Public Access Areas

RPS states that:

'A review of nearby public amenity areas was conducted to ensure there would be no interference with such designations as a result of the proposed development'.

It then concludes that the Ulster Way, sustrans and Bridle Ways are sufficiently distant from the site to be affected.

The most significant amenity area, to which RPS failed to give any consideration in the D&AS, is the area in which this development would actually sit.

KellsVOCAL considers that the area surrounding this development site is, in itself, a public amenity area of local significance, used and valued by cyclists, ramblers, horse riders, pony trotters, commuters, children travelling to school by bus or car or on foot, dog walkers, families out walking, farmers and other workers, visitors, tourists and the numerous residents who may also fit into most of these categories. RPS has failed to give consideration to the impact on the everyday lives of all of these people when assessing the impact of its road access plans.

KellsVOCAL understand that a right of way may exist from the Ross Lane to the lake and back to the Whappstown Road. We understand that this Public Right of Way was a condition to the award of the grant provided to the owner when he constructed the lake.

KellsVOCAL ask that the Department investigate if there is a public right of way over this land.

Point 6.11 Disabled Accesses

RPS states:

'For security and operational reasons, there will be no permitted access to persons other than for the purposes of maintenance and monitoring the facility'.

Point 7.5.2.3 of the Terrestrial Ecology and Ornithology section of the ES states:

'All security fences will be raised off the ground by a minimum height of 150mm to allow for unfettered passage of ground mammals'.

KellsVOCAL suggests that Elgin may just want to give some deeper thought to how exactly it will keep unauthorised adults and children out of an unmanned site spanning 250 acres, surrounded by deer fencing with a minimum crawl space of 150 mm underneath.

Objection: The brevity of the information in this section of the D& AS is indicative of poor design and demonstrates a lack of the most basic consideration of public Health and Safety requirements.

Please request that the agent submits the following information so that it can be assessed prior to any decision being made.

Full details of the applicants Health and Safety Policy regarding unauthorized access to the site

Full details of its Hazard and Risk Assessment regarding unauthorised access to the site

Full details of its Hazard and Risk Response Strategy regarding unauthorised access to the site

This planning application should be refused on the grounds that the applicant has failed to demonstrate the most basic regard for health and safety.

7. Heritage

Point 7.1 states that:

‘Forming part of the ES, an archaeological impact assessment was undertaken; the assessment considered the impact of the proposal on archaeological and cultural heritage features which may be present within the locale’.

With regard to the ‘archaeological and cultural heritage features which may be present within the site’, RPS states:

‘Whilst the assessment determined that no known such sites are identified within the area of development, the proposed solar farm is located within an area of archaeological sensitivity.’

Section 9 of the ES is entitled ‘Archaeology and Cultural Heritage’. From this one would assume that RPS, and more surprisingly, Gahan and Long would have demonstrated an understanding of what is meant by cultural heritage and would have not then gone on to produce an ES document where the term ‘cultural heritage’ appear only once within the text.

In the light of the above definitions of cultural heritage, it is difficult to know how RPS and Gahan and Long, have reached the conclusion that no cultural heritage features are identified within the area of development without providing any evidence, either in the D&AS or the ES. The ES itself contains only one sentence that refers to cultural heritage: “A review of all known cultural heritage assets was undertaken as part of this assessment.”(Point 9.6) but provides no evidence of the review it refers to. The intangible elements of cultural heritage could not have been assessed on the basis of a desk top survey and a site walk over.

KellsVOCAL finds that Points 7.1 and 7.2 of the D&AS demonstrate a serious lack of knowledge about the nature of cultural heritage.

KellsVOCAL objects to an Archaeology and Cultural Heritage assessment that has no cultural heritage content.

8. Conclusions

KellsVOCAL finds that:

Point 8.1 - 8.3

A series of design principles has not underpinned the design evolution of the project:

Development proposals have not been undertaken within the existing site constraints – the sheer impossibility of siting this development unobtrusively within the landscape has caused the applicant to propose the totally unacceptable imposition of heavy and standard tree planting, lengthy hedges across open land where none previously existed, extensive and deep perimeter screening and tree topped bunds, all of which would remove, for a minimum of 25 years, the visual amenity and rural character of this area. In addition, the 5 miles of fencing and 30 CCTV cameras would have an overbearing and enclosing impact on a landscape characterised by a sense of tranquility, openness and freedom.

Areas of greatest environmental sensitivity, such as the lake, wetlands and Rath are not excluded from the development site but would be tightly surrounded by a multitude of solar panels

“Environmental effects of particular concern include the potential impact on visual amenity and landscape character resulting from development of an area of land of high amenity value to the west of the Whappstown Road that includes the small lake, wetlands and environs”. (Consultation response 12th August 2014)

Mature trees and species rich hedgerows **would be removed** from the site along two 85 metre sightlines.

Extensive hedging would be introduced across open land where none had previously existed, all in an effort to hide what cannot be hidden i.e. the presence of thousands of solar panels.

The structures which form the main element of the proposal do not have a low profile and therefore do not limit the potential for visual impact because:

200,000 blue or black glass panels would be arranged in arrays sitting at 9 ft. High or more.

The substation building would be 6.5 m high.

40 Inverter buildings would sit at 3 metres high on top of concrete bases.

5 miles of fencing would sit at 2.45 metres topped with 30 CCTV cameras set at 3 metres.

'NIEA Landscape architects advise that, due to the topography of the area and the existence of open expansive views, we have major concerns regarding the capacity of the receiving environment to accommodate development of the nature proposed without adverse impact on existing landscape character and visual amenity.' (Consultation response 10th April 2014) and

'The sensitivity to change of the receiving environment is increased by the availability of open elevated views from the surrounding uplands so it is vital that any assessment includes a selection of those views.' (Consultation response 10th April 2014)

The mitigation measures referred to do not ensure integration with the existing landscape and minimise potential for visual impact. On the contrary they are an attempt to conceal a monumentally obtrusive development in an inappropriate location. Rather than concealing it, they would highlight, even more graphically, a loss of the visual, residential and rural amenity valued by an established rural community.

Point 8.4

The project **is not** consistent with all relevant planning policy and guidelines that have as their aim the protection of the local environment. KellsVOCAL will also be submitting a more detailed consideration of relevant planning policy and guidelines separately.

The Antrim Area Plan 1984 -2001 and the Ballymena Area Plan 1986-2001:

'In both cases: 'There are no policies relating to renewable energy in the Area Plan and no other appropriate policies under other categories such as Countryside,

Tourism, Natural Environment, Public Utilities and Industry.' (From the Planning Decision Report relating to Castlegore Wind Farm G/2011/0136/F)

And, with regard to housing, industry, commerce, education and social community facilities:

'The department aims to ensure that all such developments should maintain or improve the pleasant physical environment of the District'. (Ballymena Area plan – Aims and Objectives point 2.2) and

'Prominent and dominating access roads, gate pillars and boundary walls or fences, however appropriate in suburban areas, can be quite out of place in the countryside.'

PPS 18 - It cannot be consistent with PPS 18 because there is no consideration of large scale ground mounted solar PV in this PPS or in the related Best Practice Guidance 2009.

PPS 21 Sustainable Development in the Countryside June 2010 - The objectives of PPS21 include:

'To conserve the landscape and natural resources of the rural area and to protect it from excessive, inappropriate or obtrusive development and from the actual effects of pollution'

And

'To promote high standards in the design, siting and landscaping of development in the countryside'

Point 6.77 of the new SPPS states:

'In all circumstances proposals for development in the countryside must be sited and designed to integrate sympathetically with their surroundings, must not have an adverse impact on the rural character of the area, and meet other planning and environmental considerations including those for drainage, sewerage, access and road safety.'

Refer to appendix 7

This is just Phase 1 of this 50 MW development and is approximately half the size of the proposed Kells Solar Power Station. Kells Solar Power Station would be almost twice this size.

How could a solar power station twice this size ever be considered as integrating sympathetically into its surroundings in the proposed location in the scenic Tardree Upland Pastures and Tardree and Six Mile Water Slopes?

Please refer to Appendix 7 which contains photographs of two solar developments in England. These photographs clearly illustrate the profound changes that solar arrays impose on landscape, ecosystems and biodiversity.

The proposed development would be excessive in size and scale, inappropriate in location and irremediably obtrusive.

PPS 2 Planning and Nature Conservation – development affecting other sites of local nature conservation importance- point 61.

‘Although the network of protected sites is an essential resource for nature conservation, it can cover only a small proportion of the land area. These sites cannot contain more than a representative sample of the natural resource which they have been established to protect. Indeed, many rare and vulnerable species, protected under the Wildlife Order, are not confined to designated areas but occur elsewhere’

And, in point 62:

‘Habitats, species and features worthy of protection may occur almost anywhere but they are particularly prevalent in wet grasslands, freshwater lakes, blanket and lowland bogs, areas of broadleaved woodland, river corridors and coastal dunes’.

The reintroduction of the lake, wetlands and environs at Mann’s Hill into the development site cannot be viewed as compliant with PPS 2. The deployment of solar panels across a large area of Curlew breeding grounds cannot be considered compliant with PPS 2.

Regional Development Strategy 2035

‘Northern Ireland’s environment is a unique asset; sustaining its landscape and biological diversity. It also makes a small but significant contribution to protecting a much wider ecosystem which sustains life on earth. We therefore have a responsibility to protect and enhance this asset for the benefit of future generations’.

And

‘Maintain the integrity of built heritage assets, including historic landscapes. Historic sites, buildings and landscapes do not exist in isolation. Their appropriate management and wider integration with their surroundings will help contribute to local character, and ensure that these assets continue to make an important contribution to our tourism economy’.

And

‘Recognise and promote the conservation of local identity and distinctive landscape character’.

200,000 blue or black solar panels plus the combined infrastructure of this development deployed across 250 acres of undulating countryside would not maintain the integrity of the historic landscape. Instead it would destroy the historic character of a landscape that has remained fundamentally unchanged over generations. It would destroy and fragment priority habitats and endanger the survival in the area of priority species such as curlew, snipe herons, buzzards and hen harriers. It would create massive cumulative impact given the number of wind farms in close proximity to the Whappstown, Speerstown and Tildarg Roads. In could not claim to protect and enhance the local environment for the benefit of future generations because it would entirely change the local environment.

CTY 14 Rural Character

A new building will be unacceptable where:

'It is unduly prominent in the landscape'.

'It does not respect the traditional pattern of settlement exhibited in that area'.

Draft SPPS – Development in the Countryside Point 6.53

'The rural area is recognised as one of our greatest assets, with its stunning landscapes, an outstanding coastline, a complex variety of wildlife and a rich built and cultural heritage for the ecosystem services it provides and its sense of place and history'.

Sustainable Development Strategy for Northern Ireland – Everyone's involved – 2010:

One of the strategic objectives of this strategy is to *'take action to halt biodiversity loss.'* The deployment of solar arrays across 250 acres of one of the last remaining curlew breeding grounds in N Ireland could in no way be viewed as a proposal likely to halt biodiversity loss. On the contrary 200,000 glass panels and their metal supports would destroy and fragment curlew breeding and foraging habitat. The curlew is a protected, priority species which requires open stretches of tussocky ground to nest in. It needs to nest in an open expanse of land in order to see the approach of predators.

Points 8.5 and 8.6 socio-economic benefits

In the course of its response to the D&AS, KellsVOCAL has raise questions around:

Actual generation figures and the likely number of households that could be supplied

Actual number of f/t jobs post-construction

Actual CO2 abatement figures

A Community Benefits scheme that has the potential for a divisive impact within the community

The cost to the economy of ROC subsidies and the subsequent increase in utility bills

8.7

The Design and Access Statements April 2015 - Practice Note 12 – point 1.1 of Introduction states that:

‘A core planning principle of the reformed two-tier planning system is to support good design. The planning system therefore plays a significant role in making successful places through its influence on the type, scale, location and design of development, and the use of land. A design and access (D&AS) statement is a report accompanying and supporting a planning application. It provides a framework for applicants to explain how a proposed development is a suitable response to the site and its setting’.

Overall, KellsVOCAL finds that the D &AS does not evidence good design and is not of a sufficiently clear, transparent, accurate and thorough quality to accompany the planning application for a Solar Power Station that would be the largest in Northern Ireland. KellsVOCAL finds it indicative of the failings of the entire ES.

In the EA Determination Sheet for this planning application the Case officer states:

‘The proposed development raises some potentially significant environmental impacts due to the size, scale and nature of the proposal’.

And

‘The magnitude, complexity and frequency of the impact are largely unknown due, in part to a lack of knowledge on the severity of the impacts and the potential mitigation available. The proposed development represents a new technology to the region’.

And

‘While several applications for solar farms have been considered recently, none to date are on this same scale. The determining planning policy for assessment is Planning Policy Statement 18 Renewable Energy which is supplemented with a best practice guidance which gives little guidance on solar farms other than to point out that they are rare in the UK’.

And

‘Given the scale and size of the proposed scheme, and taking into consideration the consultation responses to date, I am of the opinion that the matters outlined above have the potential to be significant and therefore in order to be capable of full assessment require the submission of an Environmental Impact Statement’.

The draft SPPS for Northern Ireland - point 3.35 states that:

‘Design is an important material consideration in planning and permission may be refused solely on design grounds’.



KellsVOCAL finds that the design of this proposal is fundamentally flawed by the applicant's choice of a totally inappropriate site for a solar power station. All design decisions, plans and proposals emanating from this choice have merely been a scrambled and unsuccessful attempt to justify the initial mistake. It has been further undermined, and critically so, by the innumerable inaccuracies, omissions, lack of clarity and lack of gravitas afforded to a proposal of this magnitude in the D&AS.

KellsVOCAL objects that this planning application should be refused on the grounds of an inadequate Design and Access Statement.

SPPS 4.27 'Planning authorities will reject poor designs, particularly proposals that are inappropriate to their context, including schemes that are clearly out of scale, or incompatible with their surroundings, or not in accordance with the LDP, or local design guidance.'

THE DESIGN OF THIS PROPOSAL IS SO FUNDAMENTALLY FLAWED THAT A PUBLIC INQUIRY MUST BE HELD IN ORDER TO ESTABLISH HOW SUCH A POORLY DESIGNES PROPOSAL COULD HAVE REACHED APPLICATION STAGE

Proposed Solar Power Station, Kells: Lao3/2015/0234/F

Section 2 Project Description

Section 2 of the purported ES gives a general description of the elements of the proposed development. This is for the most part cut and pasted from the Non-Technical Summary.

These elements have been addressed in our response to the Non-technical Summary and in the relevant sections of our rebuttal to the purported ES

Within project description we will deal with 2.2.19 Socio-Economic Impacts

Response to

**SOCIO-ECONOMIC IMPACT ASSESSMENT OF THE PROPOSED KELLS
SOLAR PV FARM,**

Prepared on Behalf of:

KellsVOCAL



November 2015

THE REPORT SUBMITTED WITH THE PURPORTED ES WAS PREPARED BY PMCA ECONOMIC CONSULTING WHO WERE ENGAGED BY THE APPLICANT TO PRODUCE A REPORT TO ASSIST THE APPLICANT IN GAINING PLANNING PERMISSION.

Thus this report cannot be considered to be independent. It is therefore incumbent on the Department to carry out an independent and expert assessment of the socio-economic claims associated with this proposal.

The report is padded out with meaningless tables, graphs and maps the vast majority of which have nothing whatsoever to do with this application. It is a 93 page Appendix to the project description that would have taxed the endurance of any reader.

KellsVOCAL has considered the report in detail and makes the following comments.

Environment Committee meeting, 15thOctober 2015 (Hansard Report)

Page 10 Ms. Lo “you can probably recall that, in our wind energy enquiry, we mentioned the economic aspects and that an application needs to be more specific about what economic benefits proposals claim to bring, for example that it will create so many jobs etc. We need more specific material considerations to be set out.”

Mr. Durkan replied “I am a huge advocate of and believer in renewable energy and our need to support that – I do not believe that it should be anywhere or at any cost.”

KellsVOCAL notes that the planning approval reports to-date, for solar PV developments, have cited the significant weighting clause and shown no evidence of having carried out independent assessments of the socio-economic claims associated with these proposals, thus claims for job creation, reduction in CO2 emissions, and ability to power a specific number of homes were not scrutinised. The new SPPS has changed significant weighting to appropriate weighting in order to address the unacceptable situation where inappropriate RE proposals could override environmental and other significant considerations. In determining RE planning applications, greater emphasis will now be placed on the verification of the developer’s claims of socio-economic benefits.

Compare:

- 1 West Lindsey District Council has granted planning permission for a 50MW solar park on the site of a former RAF base in Lincolnshire. The developer of the site, Lunar Energy, predicts that the solar farm will generate enough electricity to power over **12,000 homes** – mitigating the emission of **500,000 tonnes of carbon dioxide** over the project’s lifetime of 30 years.
- 2 Masserene application LA/2015/0262 also 50Mw claim power for **9,700 homes** mitigating **465,000 tonnes CO2. Employ 40 during construction.**
- 3 Elgin application LA03/2015/0234 also 50Mw claim power for **15,000 homes**, mitigating **1,075,000 tonnes CO2. Employ 214 during construction.**

When comparing similar sized schemes, it is apparent that Elgin’s figures are significantly and inexplicably higher.

The Department must carry out an independent, expert assessment of all of the socio-economic claims associated with this proposal.

As with the majority of the ES, absolutely nothing should be taken at face value. Each statement must be scrutinised and assessed. In reviewing the Socio-Economic Impact Assessment, we are again aware that the ES was prepared for the purpose of gaining planning permission regardless of the damage to our economy and our environment.

Should the department wish to consider the merits of this application on the grounds of socio-economic impact, it must engage a totally independent economist to prepare an accurate socio economic report into the impact that this proposal would have e.g. on the resulting number of job losses and the adverse impact on the Northern Ireland economy.

News in the last week - 860 job losses at Michelin because of excessively high energy prices caused by payment of subsidies to renewable energy companies to generate dirty expensive electricity.

THE PMCA report is made up as follows:

Page		Cover page
Page		Table of contents
Pages	(i-ii)	List of exhibits
Pages	(3-6)	Glossary of terms
Page	(vii)	Key Messages
Page	(8-xv)	Executive summary
Page	(xvii)	Acknowledgements and disclaimer.
Page	(xviii)	About PMCA Economic Consulting.
Pages	(1-11)	1 Introduction and background
Pages	(12-34)	2 Baseline Socio-Economic Profile
Pages	(35-61)	3 Socio-Economic Impact Assessment
Page	(62)	4 Concluding Remarks
Pages	(63-73)	Appendix Supplementary Information

Remembering that the PMCA report was commissioned by Elgin in order for them to obtain planning permission and is based on completely unachievable generation figures, no reliance whatsoever can be placed on this report.

THE PMCA REPORT AND THE ENTIRE ES MUST BE REJECTED.

The PMCA report starts on page vii. Key messages:

The key messages of this socio-economic impact assessment of the proposed Kells Solar Power station are summarised here.

KellsVOCAL advises the reader to consider the details in the context of all of the details contained in the main body of the report and the Executive Summary.

KellsVOCAL advises that all information in the report and the response to the report must be independently verified.

1 The significance adverse Impact of Major Renewable Energy for Northern Ireland.

The installation would be one of the largest solar facilities (grid-connected) in the UK and the largest solar energy project on the island of Ireland, capable of generating approximately 50MW of clean, renewable electricity annually

All similar solar power stations are sited on flat brownfield sites such as disused airfields.

The applicant chose this site because of its proximity to a grid connection.

The applicant did not provide evidence of researching alternative sites.

The proposal would destroy the habitat of many protected species.

The proposal impact would impact on 558 residential properties. (taken from the applicants Project Description page 9).

200,000 panels would be seen from Slemish to the Sperrins.

This proposal will result in dozens job losses.

This proposal will cost the economy over £60 million paid to the developer in subsidies and a further 100 million in lost revenue from business that relocate elsewhere because of increased energy charges in subsidies to the developers. Michelin, Caterpillar.

.The proposal is NOT capable of generating approximately 50 megawatts (MW) Even situated on the equator with the sun directly overhead 24/7 365 days per year this plated generating capacity could not be achieved.

50Mw is peak capacity requiring bright daylight directly from the south directly overhead 24 hours per day.

In Northern Ireland generation is at best is 7% of capacity.

The sun rises in the East and sets in the west so any viable generation takes place between 10.00am and 2.00pm. If it is raining or there is a mist or the sky is cloudy electricity production falls dramatically. In the short dark days of winter solar PV production is negligible. (Backed up with data from my inverter Appendix 3)

of clean, renewable electricity annually,

However solar energy is not clean. Solar energy is dirty energy. Solar energy production varies greatly as clouds pass between the sun and the panels causing fluctuations in frequency of electricity giving rise to discomfort and possibly illness. As the ability to generate varies during the transition from darkness until there is sufficient brightness to generate enough electricity to power the invertors and throughout the day as clouds pass between the sun and the panels and as the sun passes from east to west and the ability to produce generation decreases the fossil fuel generators rev up and down burning much more fuel than had they been running at optimum performance. More CO₂ is produced than normal giving solar generation the name dirty generation.

Policy Relevance

The proposed project is relevant in the context of the EU's aim of encouraging more private sector investment in renewable energies.

However as the EU target has now been exceeded there is no necessity to destroy the environment any further. It is more important that economy delivers new jobs. There is no merit in driving out hundreds of jobs because of high energy prices to support current technology that doesn't work at our latitude.

In order to diversify energy supply and address security of supply to enable a more competitive and sustainable low carbon EU energy sector.

The Strategic Development Plan 2035 has recognised the need for diversifying energy supplies and recognizing that large scale solar is totally ineffective in Northern Ireland has stated:

4.15 Development of Northern Ireland's renewable energy sources is vital to increase its energy security, help combat climate change and achieve the renewable energy targets. The Strategic Energy Framework sets a target of 40% electricity consumption from renewable sources and a 10% renewable heat target by 2020, in line with mandatory EU renewable targets. **This is likely to mean an increase in the number of wind farms both on and off shore and the need to diversify renewables to include electricity from other sources such as tidal stream and bio-energy sources.** A renewable heat strategy is likely to require new renewable heat infrastructure to support it.

The proposed project is timely given the ambitious common renewable target of which both administration on the island of Ireland are committed to achieving by the end of the decade, namely that 40% of all electricity consumed will come from renewable sources by 2020.

Referring again to the Strategic Development Plan large scale solar will not feature in the 40% target. It is so ineffective and takes up so much of our much needed agricultural land while producing, at this latitude, an insignificant amount of electricity. Had it not been for ineffective planning policy and over generous grants large scale solar generation would never have been considered for Northern Ireland.

PPS18 it states:

The SDS contains challenging targets for Northern Ireland above those set at national and international levels for the reduction of greenhouse gas emissions and indicates important steps towards achieving these targets. **These include ensuring that where technologically and economically feasible,** beyond 2025, 40% of all electricity consumed in Northern Ireland is obtained from indigenous renewable energy sources with at least 25% of this being generated by non-wind technologies.

At our latitude and given our prevailing cloud cover this project is currently both technically and economically unacceptable. Taking 250 acres of agricultural land out of use to generate a miniscule amount of electricity is contrary to the aims of PPS18

In July 2011, DECC published the UK Renewables Roadmap, which sets out a UK wide analysis of renewables deployment. It states:

'The Roadmap focuses on the 8 technologies that have either the greatest potential to help the UK meet the 2020 target in a cost effective and sustainable way or offer great potential for the decades that follow. The eight technologies (that are capable of delivering more than 90% of the renewable energy needed for 2020) are onshore wind, offshore wind, marine energy, biomass electricity, biomass heat, ground source and air source heat pumps and renewable transport.'

KellsVOCAL notes that solar PV was not considered for inclusion in the 8 technologies that have the greatest potential in terms of cost effectiveness, sustainability or potential for future decades.

The proposed project makes no significant contribution of solar energy to the mix of renewable energies.

The technology employed in solar generation has changed little in the last 50 years. However new technologies are now emerging that will be much more efficient thereby helping to diversify the sources of clean, carbon-abating energy sources on the island, which, when developed, will help to combat climate change.

The large “bricks” we once carried about were called mobile phones and if you happened to be in the right place you may have been able to make a call before the heavyweight battery ran out. Today we have all got slim line smart phones capable surfing the internet, sending pictures and e mail not to mention making calls from anywhere in the world.

The transition from the brick to the smart phone took 10 – 12 years.

The technology proposed by the applicant is a “brick”. This technology is obsolete yet they propose to cover 250 acres of agricultural land with 200,000 bricks which, given our climate, will produce next to no electricity.

NEW SOLAR TECHNOLOGIES ARE AROUND THE CORNER.

This fully transparent solar cell could make every window and screen a power source.



Back in August 2014, researchers at Michigan State University have created a fully transparent solar concentrator, which could turn any window or sheet of glass (like your Smartphone’s screen) into a photovoltaic solar cell. Unlike other “transparent” solar cells that we’ve reported on in the past, this one really *is* transparent, as you can see in the photos throughout this story. According to Richard Lunt, who led the research at the time, the team is confident the transparent solar panels can be efficiently deployed in a wide range of settings, from “tall buildings with lots of windows or any kind of mobile device that demands high aesthetic quality like a phone or e-reader.”

Today, Ubiquitous Energy, an [MIT startup we first reported on in 2013](#), is now getting closer to bringing its transparent solar panels to market. Lunt cofounded the company and remains assistant professor of chemical engineering and materials science at Michigan State University. Essentially, what they're doing is instead of shrinking the components, they're changing the way the cell absorbs light. The cell selectively harvests the part of the solar spectrum we can't see with our eye, while letting regular visible light pass through.

The World's First Solar Road Is Producing More Energy than Expected

In its first six months of existence, the world's first solar road is performing even better than developers thought.

The road, which opened in the Netherlands in November of last year, has produced more than 3,000 kilowatt-hours of energy — enough to power a single small household for one year, according to [Al-Jazeera America](#).

"If we translate this to an annual yield, we expect more than the 70KWh per square meter per year," Sten de Wit, a spokesman for the project — dubbed SolaRoad — told Al Jazeera America. "We predicted [this] as an upper limit in the laboratory stage. We can therefore conclude that it was a successful first half year."

De Wit [said in a statement](#) that he didn't "expect a yield as high as this so quickly."

The 230-foot stretch of road, which is embedded with solar cells that are protected by two layers of safety glass, is [built for bike traffic](#), a use that reflects the road's environmentally-friendly message and the cycling-heavy culture of the Netherlands. However, the road could withstand heavier traffic if needed, according to one of the project's developers.

So far, about 150,000 cyclists have ridden over the road. Arian de Bondt, director of Ooms Civiel, one of the companies working on the project, said that the developers were working on developing solar panels that could withstand large buses and vehicles.

Again refer to the SDP. Solar energy does not work in Northern Ireland. The SPD states:

This is likely to mean an increase in the number of wind farms both on and off shore and the need to diversify renewables to include electricity from other sources such as tidal stream and bio-energy sources

The proposed project is also relevant in the context of the 2012 Economic Strategy for Northern Ireland, which aims to broaden the mix of economic activities and ensure a more economically competitive NI—the planned installation would provide important new renewable energy infrastructure, create new employment and send out a positive signal regarding NI, which has the potential to make the region more attractive to inward investment.

KellsVOCAL refutes this claim. Large scale solar power is the most ineffective of all renewable energy sources. Today, 13 November 2015, a 4Kw system couldn't light a 100w bulb.

Businesses are closing because of high energy costs. Until Northern Ireland learns lessons from the European countries such as Germany and Spain and stops handing out subsidies that inflate our energy costs all foreign investment will cease and our economy will be bankrupt.

The following figures were collected by the [Department of Energy and Climate Change](#) on the **Capacity Factors** for various types of plants in UK grid [\[29\]\[30\]\[31\]\[32\]](#)

Plant type	2007	2008	2009	2010	2011	2012	2013	2007– 2012 average
Nuclear power plants	59.6%	49.4%	65.6%	59.3%	66.4%	70.8%	73.8%	61.9%
Combined cycle gas turbine stations	64.7%	71.0%	64.2%	61.6%	47.8%	30.3%	27.9%	56.6%
Coal-fired power plants	46.7%	45.0%	38.5%	40.2%	40.8%	56.9%	58.4%	44.7%
Hydroelectric power stations	38.2%	37.4%	36.7%	24.9%	39.2%	35.8%	31.7%	33.7%
Wind power plants	27.7%	27.5%	27.1%	23.7%	29.9%	29.0%	32.3%	27.5%
Photovoltaic power stations	9.9%	9.6%	9.3%	7.3%	5.1%	11.2%	10.2%	8.6%
Marine (wave and tidal power stations)			4.8%	8.4%	3.8%	8.3%	9.7%	
Bioenergy power stations			56.5%	55.2%	44.8%	47.9%	58.0%	

https://en.wikipedia.org/wiki/Capacity_factor

With an average of 8.6% (2007-2012), solar PV has one of the lowest capacity factors.

IN THE NORTH OF IRELAND THE LIKELY EFFICENCY WILL BE AROUND 7%

Socio-Economic Impacts

Employment during the installation phase would see the creation of 214 direct full-time equivalents (FTEs), in turn triggering an estimated 355 FTEs elsewhere in the local economy through indirect and induced effects (i.e. from knock-on business-to-business supply chain impacts and household /final consumer impacts).

There is no evidence to support this claim. The figures are an estimate. Impacts to final consumers will see a rise in electricity prices to pay for the subsidies.

The estimate of 214 direct FTEs during installation reflects the numbers associated with installing a typical 50MW scheme connected to the grid. (P2 of Introduction and Background Section of Socio-Economic Impact Assessment)

Thus the figure of 214 jobs on site during construction is an estimate from which further estimates are calculated using the modeling tool described below.

The figure 214 is highly exaggerated when compared with the Masserene proposal

‘Outline of the Employment Impact of the Installation Phase

With an estimated Type II employment multiplier of 2.6597 for construction work in NI (given as the unweighted average of the Irish and Scottish employment multipliers shown in [Table 3.1](#)), the 214 direct new jobs (FTEs) associated with the installation phase of the proposed project would imply indirect and induced employment elsewhere in the local/NI economy of 355 FTEs or a total direct, indirect and induced employment impact of 569 FTEs created and/or sustained in NI.’

As the figure of 214 is incorrect then the figure of 569 is totally incorrect. Also it must be borne in mind that even if these figures were correct (which they are not) this is for the construction period only. In the long term there are real job losses in farming and food sectors.

In Section 12 of the ES – Soils, Geology and Hydrogeology, it states:

12.5.1

'Piling will not be undertaken in the construction of the proposed solar farm'

However, in the Socio-Economic Impact Assessment- Supplementary Information, Table A2 it states that there will be 120 piling contractors employed during the construction phase of this development.

Socio-Economic Impact Assessment- Supplementary Information, Table A2

Table A2: Details of the Numbers and Illustrative Salaries of the Full-Time Equivalent (FTE) Workers in the Installation Phase of the Proposed Project			
Worker Category	Number	%	Illustrative Gross Salary (£)
Solar PV Engineers	2	0.9%	35,832
LV Electricians	40	18.7%	28,380
HV Electricians	6	2.8%	30,380
Ground Works Contractors	6	2.8%	21,427
Civil Engineers	2	0.9%	35,832
Fencing Contractors	10	4.7%	22,987
Piling Contractors	120	56.1%	22,987
Landscape Contractors	6	2.8%	21,427
Drainage Contractors	6	2.8%	21,427
CDM Coordinators	1	0.5%	35,828
Site Managers	3	1.4%	35,829
Health and Safety Managers	2	0.9%	31,025
Logistics Coordinators	2	0.9%	32,122
Security Contractors	8	3.7%	17,158
Total	214	100.0%	
Weighted Average Salary			24,494

Source: Annual Survey of Hours and Earnings 2014, PMCA Economic Consulting analysis.

Note: The illustrative gross salary figures (£) are based on the relevant/closest available data contained in the ASHE 2014, the figures for which are also shown. All gross salaries quoted from the ASHE 2014 are median gross salaries for full-time occupations, apart from the ASHE category “construction and building trades supervisors” (mean), which is used to inform the CDM coordinator and site managers categories in the installation phase of the proposed project. See footnote 61 (p. 43 of the main body of the report) for an outline of how the salary figures in this table were arrived at.

If the estimate, of 214 jobs on site during construction, includes 120 piling contractor jobs which don't exist because the applicant tells us there will be no piling on site, then the calculation of 550 associated jobs implied from the 214 estimate would not be correct.

Please request that the agent clarifies the conflicting information regarding pile driving jobs and no pile driving on site, and submits the information to the planning portal.

With regard to the numbers and types of employees that are listed in Table A2, please request that the agent confirms which categories of workers would actually be employed on site and the number in each category and submits this information to the planning portal.

Consider the welfare facilities for the construction phase. There will never be a fraction of 214 FTE's on site. Refer to the references to contractors. Refer to similar schemes. There is no evidence whatsoever provided by the applicant to support its claims. If there are an average 30 men on site over a 16 week period this = 16 weeks x 30 men = 480 man weeks divide by 25 years = 19.2 man weeks per year = One part time job 2 days per week over the lifetime of the proposal. Set this against job losses in farming and agrifood and there will be real job losses.

A further 14 FTEs per year would result in the operational phase, consisting of 5 FTEs directly engaged with the operation and maintenance of the proposed installation and an additional 9 FTEs created or sustained through the project's wider economic stimulus.

The ES states one man occasionally cleaning and repairing. PMCA have raised this to a *further 14 FTEs per year would result in the operational phase.* However, no evidence whatsoever is provided by the applicant to support this claim.

The Department must seek detailed information about the exact nature of these jobs given that the applicant has stated that:

In point 2.2.16 of the ES – Project Description:

'During the operational period traffic generation will be minimal and confined to: Occasional maintenance in the event of panel damage or for cleaning the panels; or occasional site visits to sub-station'.

The employment impacts are significant when set in the context of the 154 unemployment claimants in the Kells, Glenwhirry, Parkgate and Shilvodan Wards in the vicinity of the proposed project recorded in January 2015; and the employment impacts are also noteworthy in the wider context of the 2,355 unemployment claimants recorded in the Ballymena and Antrim local authority districts in January 2015.

KellsVOCAL requests that the agent clarifies which of the jobs in Table 2A will be available for the 154 unemployment claimants in the Kells, Glenwhirry, Parkgate and Shilvodan wards.

There will be no significant local jobs created. In fact there will be job losses a result of large scale solar stations that would reduce the amount of agricultural land in production in Northern Ireland.

What about the silage cutting contractors who would **lose** their jobs? The abattoirs that will close when no more cattle are raised on this farm. Jobs will also be lost in meat processing plants. Factories that manufacture farm machinery will close.

There is no evidence whatsoever provided by the applicant to support its claims of local job creation. The applicant chooses to ignore the real local job losses.

Connected to the grid, the proposed project would have the capacity to provide electricity to around 15,000 homes. It would save the equivalent of approximately 21,500 tonnes per MW of carbon dioxide (CO₂) over its lifetime, meaning that the proposed project would be capable of abating about 1,075,000 tonnes of CO₂ (gross) during its 25-year duration, or around 43,000 tonnes of CO₂ per year.

KellsVOCAL contends that these claims are unsubstantiated and based on a peak output that would rarely, if ever, be achievable. The developer claims more than double the CO₂ savings of a same sized proposal in the UK. The developer claims more than 30% more electricity generation than a similar scheme in the South of England. **TOTALLY PREPOSTEROUS.** The department must make independent assessments of the real ability to generate electricity and must calculate the increase in CO₂ emissions caused by large scale solar power stations.

To give some perspective to the potential significance of the proposed project, the proposed Kells Solar PV Farm would be capable of providing the electricity needs of more than three times the number of households in the combined Kells, Glenwhirry, Parkgate and Shilvodan Electoral Wards annually, these being the Wards in the immediate vicinity of the proposed project.

Note the “**would be capable**” that’s if Ballymena could be transported to the equator. Absolute nonsense at this latitude. No other proposal makes such widely exaggerated claims.

The estimate d overall monetized economic gain from the proposed project is estimated at £47.6m, over both the installation and operational phases. This figure comprises: £13m in gross value added (GVA); £13.63 min revenue to the NI Executive (exchequer contribution); higher consumer surplus from lower solar electricity prices of £0.46m; and lowering of the social cost of carbon to the tune of £20.51m.

The Mail on Sunday reported that on a 6.5MW, 50 acre solar farm in Devon, of the total annual income of £770,000, “£430,000 will be from subsidy under the renewable obligations scheme.

The Mail on Sunday reported that on a 6.5MW, 50 acre solar farm in Devon, of the total annual income of £770,000, “£430,000 will be from subsidy under the renewable obligations scheme, i.e. over 50% of their annual income will be from subsidy.”

THE GAIN IS PURELY IN ROC PAYMENTS FOR THE DEVELOPER. THERE IS NO GAIN TO THE ECONOMY. ALL MONIES GENERATED ARE PAID FOR BY THE CONSUMER AND BUSINESSES BY WAY OF SUBSIDIES FOR THIS EXTREMELY UNRELIABLE SOURCE OF DIRTY ENERGY.

While these benefits are considerable, they are still likely to underestimate the long-term economic impacts from the proposed project. Given the importance now placed by FDI (foreign direct investment) firms on renewable energy, including IT, data centre, software and international services companies, the positive signal emanating from the proposed installation has the scope to enhance NI’ s attractiveness as a host location for foreign direct investment in the coming years.

MICHELIN IS CLOSING BECAUSE SUBSIDISED RENEWABLE ENERGY IS FORCING BUSINESSES OUT OF NORTHERN IRELAND. THERE WILL BE NO FOREIGN DIRECT INVESTMENT WHILE ENERGY COSTS ARE INFLATED TO PAY SUBSIDIES FOR A TECHNOLOGY THAT DOES NOT WORK AT THIS LATITUDE.

IT, DATA, Software, and international companies need a 24 hour supply of reliable electricity. At this time of year they will be reduced to working from 11am to 2.00 pm. How attractive is that?

The socio-economic impacts attributable to the proposed project are all consistent with the goals set out in the Economic Strategy for Northern Ireland (2012), including skills acquisition and development, and tackling the sources of deprivation and fuel poverty.

On the contrary, there would be little or no opportunity for skills acquisition during the operational stage of the proposed development. We are told, in point 2.2.16 of the ES – Project Description, that the traffic to and from the site would be minimal and confined to:

‘Occasional maintenance in the event of panel damage or for cleaning the panels; or occasional site visits to sub-station’.

‘Cleaning will typically be undertaken by whisking off any dry floating dust or leaves from the module with a dry whisk or cloth’ (Water Quality and Fisheries, Point 15.1.6.2)

This could not possibly support the claim of ‘skills acquisition and development, and tackling the sources of poverty and deprivation.’

INCREASED COST OF ELECTRICITY OF £108.00 PER ANNUM TO EACH HOUSEHOLD TO COVER SUBSIDIES PAID TO ELGIN WILL RESULT IN SEVERE HARDSHIP AND FUEL POVERTY TO THOUSANDS OF HOUSEHOLDS IN NORTHERN IRELAND.

THE DEPARTMENTS ATTENTION IS DRAWN TO THE

**Acknowledgements and Disclaimer on page xvii of the PMCA REPORT:
“INFORMATION ON THE FEATURES OF THIS PROPOSED PROJECT WAS
OBTAINED FROM ELGIN ENERGY.**

**BY VIRTUE OF PREPARING THIS REPORT OR OTHERWISE IN CONNECTION
WITH THIS STUDY, PMCA ECONOMIC CONSULTING WILL NOT ASSUME ANY
RESPONSIBILITY OR HAVE ANY LIABILITY TO ANY THIRD PARTIES.”**

**IT IS NOTABLE THAT THE PMCA REPORT WAS PUBLISHED IN JUNE 2015 AND USES
ELGIN ENERGY FEATURES THAT WERE IN THEIR LITERATURE IN OCTOBER 2014.**

**THESE FEATURES, IN RELATION TO JOB CREATION, CO2 EMISSIONS, AND
ELECTRICITY GENERATION ARE QUESTIONNABLE WHEN COMPARED WITH SIMILAR
SCHEMES.**

THIS RENDERS THE PMCA REPORT WORTHLESS.

THE SOCIO-ECONOMIC REFERENCES IN THE ES ARE WORTHLESS.

**THE REMAINDER OF THIS LENGTHY REPORT JUST COVERS THE SAME GROUND USING
THE SAME EMBELLISHED CLAIMS PADDED OUT WITH MEANINGLESS MAPS AND
TABLES THAT HAVE LITTLE OR NOTHING TO CONTRIBUTE.**

**THE REPORT EMPHASISES THAT THE DEVELOPER WOULD BE PAYING RATES AND
TAXES AND GIVING COMMUNITY BENEFITS.**

**HOWEVER, EVERY PENNY EARNED BY ELGIN WOULD COME FROM THE PUBLIC AND
BUSINESSES WHO ARE FORCED TO PAY HIGHER ELECTRICITY PRICES.**

**IT IS THE PUBLIC, AND NOT ELGIN, THAT WOULD BE PAYING FOR THESE TAXES AND
SO CALLED COMMUNITY BENEFITS.**

**BY REFERENCE TO SIMILAR DEVELOPMENTS NOTHING IN THE PMCA REPORT
CAN BE TAKEN AS TRUE.**

**USING THE PRECAUTIONARY PRINCIPLE THE PMCA REPORT MUST BE
REJECTED**

**BEFORE ANYONE WASTES ANY MORE TIME ON THIS FLAWED REPORT A PUBLIC
INQUIRY MUST BE CALLED SO THAT THE REAL COST TO OUR ECONOMY CAN BE
DETERMINED.**

Proposed Solar Power Station, Kells: LA03/2015/0234/F**Section 3 Scoping & Consultation****3.1**

'Scoping aims to identify potentially significant environmental effects, both positive and negative, caused by the proposed solar farm, which in turn help to inform the assessment process.'

3.2 EIA Screening

'On 4th September 2014 Planning NI responded to the (EIA Determination) request confirming that the proposal falls within Schedule 2 – Category 3(a) of the 2012 regulations which refers to "Industrial installations for the production of electricity, steam and hot water" where "the development exceeds 0.5 hectare'. Proposals falling within Schedule 2 of the 2012 or the 2015 Regulations are not mandatory EIA projects. Rather the planning authority must make a determination whether the development is "likely to have significant effects on the environment by virtue of factors such as its nature, size or location." In this instance Planning NI stated the reasons for the determination included the following 'potential significant environmental effects:

Visual impact;

Noise, traffic and dust during construction;

Impact on flora and fauna;

Glint and glare on aviation and vehicular transport corridors;

Pluvial ponding and surface water run-off to various waterways;

Impact on the integrity and setting of archaeological sites and monuments in the vicinity of the site;

Impact on local bird population, including Curlew, Snipe and Skylark

Kells VOCAL notes that an Environmental Statement was required for the following reasons:

'Schedule 3 of the Planning Environmental Impact Assessment Regulations (Northern Ireland) 2012 requires an assessment of the environmental impacts under three headings and the selection criteria listed under 4.3 of the Directive:

The characteristics of the development

The location of the development

The characteristics of the potential impact'

In the EA Determination Sheet for this proposal, 4/9/2014, the Case Officer states:

'The proposed development raises some potentially significant environmental impacts due to the size, scale and nature of the proposal.'

And

'The magnitude, complexity and frequency of the impact are largely unknown due, in part to a lack of knowledge on the severity of the impacts and the potential mitigation available. The proposed development represents a new technology to the region'.

And

'While several applications for solar farms have been considered recently, none to date are on this same scale. The determining planning policy for assessment is Planning Policy Statement 18 Renewable Energy which is supplement with a best practice guidance which gives little guidance on solar farms other than to point out that they are rare in the UK'.

And

'Given the scale and size of the proposed scheme, and taking into consideration the consultation responses to date, I am of the opinion that the matters outlined above have the potential to be significant and therefore in order to be capable of full assessment require the submission of an Environmental Impact Statement'.

Kells VOCAL finds that, in failing to highlight the significant concerns expressed within the EA Determination, RPS has played down the potential for adverse environmental impact associated with the proposed development.

3.3 EIA Scoping

'Scoping is the process of determining the context and extent of the matters which should be covered in the environmental information to be submitted to a competent authority for projects which are subject to EIA.'

'To inform their response to the EIA determination request (submitted 8th July 2014) Planning NI undertook a series of consultations with statutory authorities'

'In October 2014, RPS undertook a further Scoping exercise directly with an extended list of consultees to further inform the preparation of the ES. The rationale for undertaking the second scoping exercise was to:

Ensure all consultees were in receipt of the most recent project information;

Ensure the EIA process was controlled and robust; and

Ensure all consultees – including those that had not already provided responses through the Planning NI process – had an opportunity to respond to the most up to date information.'

Point 3.2 provides a list of the bodies consulted by RPS. This includes NI Tourist Board. RPS states that NI Tourist Board made 'general comments' however those general comments were as follows:

'Please note that the Northern Ireland Tourist Board (NITB) – as the national tourism body – does not always have the site specific knowledge that is required to provide comment on local tourism features and potential impacts.

And

*'For this reason, councils and/or regional tourist bodies, with their local remit, are often better placed to provide comment. **We would recommend that you also make contact with the local tourism bodies in the area in addition to considering the information available on NTB's consumer website www.discovernorthernireland.com** (NI Tourist Board consultation response 5th January 2015)*

It then lists 7 features of local tourism interest including Slemish Mountain, St Patrick's Trail, Kells and Connor early Christian sites.

Tourist Board NI states that it does not have site specific knowledge and recommends that the Department make contact with local tourism bodies. **It would appear from this that the NI Tourist Board had no idea of the magnitude of the proposal it was being asked to comment on and therefore did not consider the close proximity of the proposed Solar Power Station to the world renowned Slemish Mountain, to the site of the Battle of Connor and to one of the ancient Royal Roads of Ireland?**

In spite of the recommendation made by the NI Tourist Board, its successor, Tourism Northern Ireland, has not been included at all, on a regional or local level, in the list of consultees for the full planning application. **As the site plan submitted with the planning application differs significantly from the site plan available to pre-application consultees, it is incumbent on the Department to consult anew with Tourism NI on a regional and local level.**

The size in acres/hectares should be explicit in the Department's consultation request to Tourism NI.

Please advise why Tourism Northern Ireland has not been consulted regarding the planning application for what would be the largest Solar Power Station in Ireland.

There are numerous similar developments in the pipeline regionally, across N Ireland and locally in Co Antrim e.g. Antrim, Larne, Ballycastle, Carrickfergus. Many would be in areas that should be of great concern to Tourism NI.

If solar power stations are permitted to spread unchecked across Northern Ireland we will soon have a much degraded landscape to promote to our tourists.

The Department must remedy this omission and consult immediately with Tourism Northern Ireland due to the potential for large-scale solar PV to impact adversely on two of N Ireland's most valuable tourist assets – heritage and landscape.

3.4 Community Consultation

'Appendix 3.2 of the ES document comprises a Community Engagement Report setting out the community consultation initiatives and overall process employed during the planning lead in period in respect of this proposal.'

Kells VOCAL considers the Community Consultation process carried out by the applicant to be totally unsatisfactory and makes detailed comment within its responses to the D&AS and the Non-Technical Summary.

3.5 Pre Application Discussion (PAD) Process

'DOE Planning NI operate a pre-application discussion (PAD) initiative for strategically important planning applications to improve the quality of these applications and speed up the decision making process.'

'A summary of engagement facilitated by the PAD process is provided within the Community Engagement Report – presented within Appendix 3.2 of the ES.'

In Appendix 3.2 - Report on Community Engagement -Pre-application Consultation, it states:

PAD meetings were held on 4th July 2014, 24th February 2015 and 19th May 2015.

'Scoping letters were sent out to a whole range of statutory consultees seeking formal confirmation of the critical environmental issues to be covered in the EIA process. See Copy (of Scoping letter) Appendix 5'.

Point 3.1 states that the EIA Determination request was submitted on 8th July 2014 and that Planning NI undertook a series of consultations with statutory authorities.

'In October 2014 RPS undertook a further Scoping exercise directly with an extended list of consultees to further inform the preparation of the ES.'

However the Scoping Letter in Appendix 5 is dated 7th October 2013 and refers to a proposal that "will have the capacity to generate 60MW of electricity upon completion."

Please request that the agent clarifies why the date on this EIA Scoping letter is October 2013 when Planning NI and RPS did not send out scoping letters until the following year.

Please request that the applicant explains why the proposal is referred to as 60MW in the Scoping letter when the proposal is actually for 50MW.

Kells VOCAL also notes that the Scoping letter does not provide information about the size of the development in hectares/acres. This is also the case with the planning application consultation requests which state:

'Construction and operation of a solar farm with total generating capacity of 50MW. Development comprises: photo-voltaic panels on mounting frames. 1 No. Substation; 40 No Inverter Stations; 30No. CCTV cameras (3m high poles); 2.45 high perimeter fence; upgrading of 2 No. Existing accesses onto Whappstown Road; internal service tracks; and 2 No. Temporary construction compounds.'

This planning application would be for the largest Solar Power Station in Ireland. For the vast majority of people, unfamiliar with solar PV technology or electricity generation terminology, the Department's 50MW description gives no indication whatsoever of the physical size of the proposal i.e. approximately 250 acres, an area twice the size of the villages of Kells and Connor combined or 17 Junction Ones.

Thus, consultees have been asked to comment on the planning application for the largest Solar Power Station in Ireland without being given the most basic and relevant information necessary to inform their decision making.

To address this omission and ensure the fairness and transparency of planning procedures, the Department should advise all consultees, by letter, of the size in hectares/acres of the proposed development, so that they can make additional informed comments should they wish to do so. This correspondence should then be placed on the planning portal.

Kells VOCAL seeks clarification regarding the PAD process

'The Kells Solar project benefitted from PAD status – further facilitating structured engagement between appropriate members of the project team, planning officials and key consultees'. Kells VOCAL also seeks clarification regarding the information that consultees were given regarding the Site Layout of the proposed development.

This further facilitated identification of those critical issues to be addressed through the EIA and design process in respect of the likely environmental impacts of the proposal, helping to ensure a robust EIA process and ES submission.'

Kells VOCAL is concerned that Infrastructure layout 4.9 November -2014 was replaced by Infrastructure Layout 4.10 – June 2015 which was submitted with the planning application. Thus it appears that the PAD discussions were based on a site layout which did not show the environmentally significant changes that had been made after the last PAD meeting on 19th May 2015

Referring to Infrastructure Layout 4.19 November 2014, RPS had stated that:

"Further focused environmental surveys helped to identify locations within the larger land holding which were more sensitive to development. In accordance with their robust approach and commitment to environmental excellence Elgin excluded these areas from development"

The applicant subsequently performed a spectacular environmental U-turn and parted ways from its 'commitment to environmental excellence' by taking in the sensitive areas around the lake and Rath in such an **environmentally insensitive** manner that their solar arrays would now be deployed across the marshy grassland, rush pasture, purple Moor Grass and peatland priority habitat close to the lake and tight around the archaeologically sensitive Rath. (See Alternatives Section of ES - Figure 4.10 Infrastructure Layout presented to DOE – June 2015) This was the final site layout submitted with the Planning Application.

Kells Vocac request that the agent clarifies whether or not the consultees attending the PAD meeting 19th May 2015 were made aware of the changes to the site layout, which would have been necessary to properly inform their consultation responses.

Kells VOCAL contends that if key consultees such as NIEA, RSPB, DRD, Rivers Agency, Mid and East Antrim EHO and Antrim and Newtownabbey EHO were not informed of the changes to the site layout, they would have lacked the necessary information to properly inform their consultation responses.

Please request that the agent clarifies all of the points of concern raised by Kells VOCAL so that the information can be assessed prior to any decision being made.

SUCH A SIGNIFICANT CHANGE IN THE PROPOSED SITE IMMEDIATELY PRIOR TO SUBMISSION OF THE APPLICATION RENDERS TO PAD PROCESS INVALID.

FAILURE TO SPECIFICALLY INFORM CONSULTEES ON THE LAYOUT CHANGE AND OF THE MAGNITUDE OF THE SITE RENDERS THE PLANNING PROCESS FLAWED.

A PUBLIC INQUIRY MUST BE CALLED IN ORDER THAT A FULL AND PROPER ASSESSMENT CAN BE MADE OF THE PLANNING APPLICATION.

Proposed Solar Power Station, Kells: LA03/2015/0234/F**Section 4 Alternatives.**

RPS refers to Schedule 4 of the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2015 – which states that an ES must include:

‘An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects.’

RPS then goes on to outline the four stages of its assessment methodology:

- *The do nothing scenario*
- *The site selection process and criteria used*
- *Alternative site options; and*
- *Alternative site infrastructure and design options*

Point 4.3 -The ‘do nothing’ Scenario:

The do nothing scenario centres on:

The Strategic Energy Framework document 2010 and the 40% renewable energy target set by the (then) DETI Minister.

And

The applicant’s claims of the substantial socio-economic benefits associated with the proposal.

PPS18 states in Point 2.9:

*'The SDS contains challenging targets from Northern Ireland above those set at national and international levels for the reduction of greenhouse gas emissions and indicates important steps towards achieving these targets. These include that where **technologically and economically feasible**, to ensure that beyond 2025, 40% of all electricity consumed in Northern Ireland is obtained from indigenous renewable energy sources with at least 25% of this being generated by non-wind technologies.'*

Kells VOCAL notes that the 40% renewable energy target is qualified by the *condition 'where technologically and economically feasible'*. In fact, this target is currently being reconsidered due to the financial implications to our economy of upgrading the Grid and of continuing to incentivise renewable energy developers through exorbitant subsidies.

The UK government and NI Assembly have become more and more aware of the financial cost of subsidising renewable energy e.g. evidence emanating from Germany, the European leader in solar PV deployment, shows that this has resulted in the highest energy prices in Europe.

When in post as DETI Minister, Arlene Foster initiated the renewable obligation closure order, in the wake of similar measures on the UK mainland. 2017 is the cut off point for ROC subsidies for large-scale solar PV in Northern Ireland. Minister Jonathon Bell recently announced that ROC subsidies for on-shore wind energy would end in April 2016, a year earlier than previously planned.

Following DECC's Call for Evidence to consider the implementation of the CfD scheme in Northern Ireland (23rd March 2015), DETI announced in its Discussion Paper on 27th March 2015 that it may reconsider NI's strategic position on what renewable energy mechanisms it will put in place after the ROC cut off point.

With subsidies for renewable energy schemes winding down, the reality is that large-scale solar PV at this latitude is simply not a viable technology.

The Onshore Renewable Electricity Action Plan 2013-2020 (Point 18 – UK Energy Policy) states:

'The Roadmap (UK Renewables Roadmap) focuses on the 8 technologies that have either the greatest potential to help the UK meet the 2020 target in a cost effective and sustainable way or offer great potential for the decades to follow. The eight technologies (that are capable of delivering more than 90% of the renewable energy needed for 2020) are onshore wind, offshore wind, marine energy, biomass electricity, biomass heat, ground source and air source heat pumps and renewable transport'.

Solar PV is therefore not considered to be in the top 8 most effective RE technologies.

And,
in Point 8 it states:

'To date, onshore wind has been the main contributor to Northern Ireland's renewable electricity levels which have risen from 3% in 2005 to just under 15% in 2013. While other technologies, such as hydro, tidal, anaerobic digestion and landfill gas have been increasing, they only contribute just under 1% of the 14%. Large scale onshore wind is the most mature and cost effective of renewable technologies and as such helps the transition to a low carbon future with less pressure on fuel bills. It will continue to play a key role in renewable generation in Northern Ireland in the medium term'.

Again, no mention of solar PV, because even the solar energy developers did not consider N Ireland as a viable location until the ROC payments dried up on UK mainland. It is only the availability of mouth-watering ROC subsidies that has encouraged developers to put in planning applications all across N Ireland. Without the ROC subsidies these schemes would not be economically viable business ventures at his latitude and will not be when the NI ROC subsidies end.

The following is taken from 'Onshore Generation Scenarios within the OREAP of the Strategic Environmental and Habitats Regulations Appraisal of the OREAP'

'In line with the target of 40% of electricity consumption to come from renewable sources by 2020, the SEA of the draft OREAP examined the potential environmental impacts of low and high MW scenarios, different types of generation technology as well as a do minimum option. The onshore technologies assessed are onshore wind, biomass and other, which included small scale wind, hydroelectric schemes, solar photovoltaic and geothermal. While it is expected that the primary contribution from onshore technologies will be from wind and biomass, it is important to reflect the role, albeit much more limited, of other smaller technologies.'

It is therefore recognised in the SEA and Habitats Regulations Appraisal that solar PV would only have a much more limited role in the overall mix of renewable technologies - **solar PV is not regarded in this DETI document as being one of the top 8 most effective RE technologies.**

A 40 % RE electricity generation target is not a valid reason to encourage the unchecked spread of large scale solar - **one of the least effective RE technologies at this latitude** - across the NI landscape. Solar energy technology is progressing very rapidly and this land- gobbling form of solar electricity will doubtless be technologically redundant in a few short years whereas the payment of ROC subsidies would be legally binding for 25 years for huge solar power stations that are ineffective.

'Protecting the global environment is not an excuse to trash the local environment'.

(Planning Update statement – HCWS488 - by Eric Pickles, Secretary of State for Communities and Local Government – March 2015)

When solar PV is considered, in DETI's own OREAP document, as not being **in the 8 most effective RE technologies**, why would DETI support the planning application for a 50 MW Solar Power Station in such a totally inappropriate rural location in the heart of Co Antrim?

Please note that Kells VOCAL comments on the flimsy socio-economic claims of the proposal in its response to the Non-Technical Summary and rebuttal to the Socio impact report in section 2.

Point 4.4 - Site Selection

Schedule 4 of the Town and Country Planning (EIA) Regulations 2015 states that the ES should include:

'An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for the choice made, taking into account the environmental effects.' (Part 1, Point 2)

In the T/2014/0089/PREAPP consultations, NIEA Natural Heritage state:
'We advise that as part of any EIA process alternative sites should be considered'.
(Consultation response 12th August 2014)

**The categories used by RPS are Regional level, Local level and Micro-level
Stage 1 – Regional Level**

In the T/2014/0089/PREAPP Breen Architects and Consultants (BAC) it states:

'June 2012 – BAC undertook numerous Site Feasibility Assessments located throughout NI. The Kells solar proposal emerged as being the most advanced and feasible project during that period'.

In The Ballymena Guardian November 2014 Elgin is quoted:

'We have worked very hard to find the most suitable location to site a large scale solar farm in Northern Ireland'.

And yet, RPS actually tells us, in Point 4.4.1, that the consideration of sites at a Regional Level was desk-based:

'This stage of the process primarily involved desktop mapping and analysis to identify constraints at a regional level'

Thus it is clear that the assessment of the most suitable location to site the largest Solar Power Station in Ireland was desk based at a regional level. We are then asked to believe that the most suitable location in the whole of Northern Ireland is slap in the middle of the highly scenic and undulating Glenwherry Valley area, enclosing an ancient early Christian Rath site, a wildlife lake and spreading across 250 acre of priority habitats that support priority species such as otter, Irish hare, badgers, bats, grey heron, curlew, lapwing, snipe, skylark, and several species of raptors such as the buzzard.

Point 4.4.1 - Regional Level states:

'Examination at a Regional Level to identify areas deemed as potentially:

**Capable of hosting a viable installation capable of producing energy from the sun;*

Kells VOCAL responds that the proposed installation would be rendered viable, not by the levels of sunshine at this latitude but by the lucrative ROC payments that the applicant would receive for 20-25 years.

Today, 27th October 2015 it is dull and overcast. At 12.00 noon a 4 Kw system on the Whappstown Road is producing 75w.

That's less than 2% of capacity.

and

**Capable of achieving planning permission for a solar energy installation when assessed against all relevant environmental factors'*

Kells VOCAL objects that RPS has provided no details whatsoever of sites at its Regional Level.

Please request that the agent provides full details of the sites that were considered at a Regional Level across Northern Ireland so that this can be assessed prior to any decision being made. Details should include map locations and the reasons why they were considered and subsequently rejected.

Stage 2- Local level

After undertaking its desk-based filtering exercise, RPS concluded that the area surrounding Kells was an area identified for further investigation. There is no explanation of how this conclusion was reached or what factors influenced the choice. Kells VOCAL suggests that the drivers for this choice were proximity to the grid connection and the willingness of local landowners to lease large swathes of land, but would nonetheless be very interested to know the reasons that the applicant would give.

Please request that the agent provides full details, on the Planning Portal, of the factors that led to the identification of the Kells area for further investigation regarding the best location for a solar power station

RPS states in point 4.4.2:

'Upon determining it as broadly feasible to locate a solar farm within the general Kells and Connor area a series of site visits were undertaken to identify potential land parcels which may be appropriate for solar development.'

However, in this scant assessment at Local level RPS, again, provides no details whatsoever of the location of any sites that were visited or considered in the whole of the general Kells and Connor area.

Kells VOCAL objects that RPS has not provided details of sites considered at its Local Level.

Please request that the agent provides full details of the sites that were considered at a Local Level so that this can be assessed prior to any decision being made. Details should include map locations and the reasons why they were considered and subsequently rejected.

Stage 3 – Micro Level

Having failed to describe the various sites considered at Local Level, RPS hones in on a number of separate land parcels in an area 'northeast of Kells and Connor and north of the Doagh and Tildarg Roads i.e. in proximity to Kells electricity substation.

There is no information whatsoever that identifies the location of any sites other than those at 'micro-level' and these are the collection of land parcels in and around the Speerstown and Tildarg Roads.

4.5 –Site Selection Criteria

‘The site selection process for a solar energy proposal is informed by assessment against a number of criteria’

All of the criteria listed by RPS in this section have been addressed in great detail by Kells VOCAL in its rebuttal of the ES. However some of them also require a response at this point...

‘Predicted Solar Resource: *the Irish Solar Energy Association’s submission for the Green Paper on Energy Policy in Ireland, addresses the question of whether the climate on the island of Ireland has enough sun to support solar installations. Section 1 states “the solar radiation in Wexford is 78% of the level enjoyed in Madrid, and is equivalent to the levels found in most of the UK. (Refer to Figure 4.1 below). Although there are reductions in output as one travels north the project has been assessed as financially viable by the developer. Accordingly solar energy installations are deemed to be viable across Northern Ireland as a region, and the available solar resource remains fairly uniform, depending upon localised site conditions.’*

KellsVOCAL is left wondering if RPS read their own documents before submitting them for public scrutiny.

Firstly, the solar radiation level in Wexford is completely irrelevant to this proposal. Wexford is the sunniest county in Ireland with 1600 hours of sunshine annually. The reason why RPS claims that solar PV has been assessed as viable across Northern Ireland as a region has nothing to do with the ‘solar resource’ and everything to do with the availability of ROC subsidies. The proposed site in the Antrim Hills would get around 1100hrs sunshine annually – 500 hours per annum less than Wexford.

‘The Co. Antrim uplands have about 1100 hours of sunshine per annum –roughly 300 less than the 1400 hours of sunshine annually that coastal Co Down enjoys. The Climate of Northern Ireland www.h2g2.com/approved_entry/A1029269

‘The dullest parts of N Ireland are the upland areas of the north and west, with annual average totals of less than 1100 hours (sunshine).’ www.metoffice.gov.uk/climate

This is much less than Rosslare in Co Wexford, ROI, which has an average of 1599 hours sunshine per annum. <https://en.wikipedia.org/wiki/Rosslare>

‘UK as a whole has an average annual of 1339 hours sunshine’ www.en.wikipedia.org/wiki/climate

but in the south of England where most of the solar stations are located the levels are much higher e.g.

Newquay in Cornwall gets 1743 annual hours sunshine
www.currentresults.com>Europe>UK

Exeter gets 1747 hours, oxford gets 1578 hours www.currentresults.com>Europe>UK
Whereas Madrid, Spain has around 2700 annual hours sunshine per annum
<https://en.wikipedia.org/wiki/madrid>

RPS refers us to Figure 4.1, the solar Irradiation map for the UK. It clearly shows, in its colour gradations, the vast difference in solar irradiation between Co Antrim, Wexford and the southern counties of England and Wales and enforces the fact that electricity generation at the location of the proposed development would be very much lower than Co Wexford and southern England.

Kells VOCAL comments on the ineffectiveness of solar PV at the proposed site in greater detail in its Response to the D&AS and the Non-Technical Summary.

THE DEPARTMENT MUST MAKE ITS OWN ASSESSMENT OF THE VIABILITY OF THIS PROPOSAL

'Topography: When placed on site all panels will be orientated to face southwards thus maximising the potential output on the daily trajectory of the sun, east through south towards west. Accordingly south facing lands are preferred for proposals of this type.'

South facing lands are indeed preferable for proposals of this type but RPS fails to point out that the slopes of this are not south facing.

The land on which the development is proposed slopes down from Elliott's Hill in the East to the sub junction of Ross Lane and the Doagh Road in the West, so in broad terms, **the slope of this land faces North West**. Lands for solar PV facilities should be either flat or with a South facing slope in order to maximise the panel's exposure to the sun.

This land is therefore fundamentally unsuitable for the development of large scale solar PV because the lands typically slope facing the Northwest. The panels will have to be mounted counter to the slope of the land in order to gain exposure to the sun at the correct angle. The result of this counter intuitive orientation is that it will massively reduce the actual output of this proposal yet still blight the same acreage of land.

'Proximity of dwellings; in a regional context, solar farms are fairly large in scale, covering anything between 50 and 300 acres in area.'

RPS implies here that a solar PV development of this magnitude would be a fairly common occurrence. At 50 MW and covering 250 acres of land, this proposal is for the largest solar power Station in Ireland, let alone Northern Ireland.

Kells VOCAL request clarification as to which regional context RPS is referring to as there is no Solar Power Station in operation in Northern Ireland covering an area between 50 and 300 acres.

Please request that the agent clarifies if the region referred to is, in fact, Northern Ireland.

'Nature conservation constraints; The Kells site does not overlap with any statutory or non-statutory nature conservation designation.'

RPS fails to inform us that the proposed development site is recognised by NIEA, RSPB and local residents as a nesting and foraging habitat for Red listed Priority Species such as Curlew and Lapwing. The whole of the site is a priority habitat for many protected species such as otter, Irish hare and bats. The lake, wetlands and rushy grasslands are priority habitats of particular significance.

'Access:

it is anticipated the delivery route for components will be via the Doagh Road onto the Whappstown Road.'

The Whappstown Road is 4 metres wide and totally unsuitable for the delivery, by HGVs, of all of the infrastructure associated with a solar power station. This narrow country road is renowned for its dangerous blind bends precisely on the stretch of road where the applicant proposes to make two site accesses. Turning out of the Whappstown Road onto the Doagh Road is notoriously hazardous and there have been several fatal accidents at the junction.

The Whappstown Road is used by a wide variety of people e.g. cyclists, joggers, pony trotting, dog walkers, families out walking, school buses, farm machinery, the Mobile Library and horse riders.

The British Horse Society (BHS) - Advice on Solar farms advises that:

'The potential effect of solar farms on horses should be carefully considered on any route used by horses – including byways, bridleways, roads and permissive routes – and on equestrian businesses where horses are kept and trained.'

It is possible, and is likely to be required as part of the planning application, for computer modelling of the glare and sightlines. Analysis of these patterns for potential impact on equestrian businesses should be considered.'

'Arrays should be avoided where glare is likely to affect users of an equestrian route or an equestrian business.' www.bhs.org.uk/-/media/BHS

'The British Horse Society has published non-statutory guidance, which recommends a minimum exclusion zone of 200m from a bridleway, restricted byway, byway open to all traffic or road used by horses'. www.bhs.org.uk/-/media/BHS/Files/PDF%20Documents/Access%20leaflets/Wind%20High%20fencing%20alongside%20a%20public%20right%20of%20way%20could%20feel%20claustrophobic%20particularly%20for%20horse%20riders.pdf

Although there is no bridle path in the vicinity of the proposed development site, RPS has failed to assess the impact upon the many local horse riders who use the Whappstown Road or upon the equestrian business adjacent to the site.

'Cumulative effects: *While the applicant is unaware of any further solar farms, where relevant the presence of other renewable energy generators and other proposals within the local area have been considered'*

Though indeed highly relevant, RPS fails to mention that there are two operational windfarms, Elliott's Hill and Wolf Bog, in the immediate area. Planning permission has been given for two more windfarms further along the Whappstown Road. (Castlegore windfarm and Whappstown windfarm) The addition of a Solar Power Station covering 250 acres of land cannot be absorbed into this rural landscape without causing adverse cumulative impact in the small townlands of Castlegore, Maxwells Walls and Whappstown.

4.6 Alternative Site Options

The applicant has used a 'scattergun' approach to this solar power station development, selecting a collection of land parcels in the adjacent townlands of Whappstown, Castlegore and Maxwells Walls. This is clearly illustrated in the lengthy series of site plans (4.62, 4.63, 4.64, 4.65, 4.7, 4.8, 4.9 and 4.10) - a succession of land parcel options which Elgin has added to, subtracted from, pared down and bulked up before coming up with this final, inherently flawed design.

The drivers were proximity to the grid and the willingness of local landowners to lease large swathes of land. The design strategy amounted to nothing more than casting a wide net and waiting to see what could be hauled in. It was advised at the pre-application stage that the parcels of land around Elliott's Hill would not be given planning approval so the applicant simply removed these land parcels, reappraised the available Graham land, and extended the proposed development eastwards, squeezing as much solar as possible into a bizarrely shaped site that straddled a narrow country road, ran right up to the garden hedges of local residents and tight around a species rich lake, wetlands and features of significant archaeological and cultural heritage.

In other countries, large solar stations of a similar size to Elgin's proposal are mainly situated on disused airfields and army bases. In Germany, for example:

52 MW Tutow Solar Park at Tutow Airport, Demnin

52 MW Walddrehna Solar Park at former Walddrehna Military Base

52 MW Waldpolenz Solar Park at former Military Airbase, east of Leipzig

On the UK mainland the small number of very large-scale solar stations is, as with Germany, mainly sited on brownfield sites such as disused airfields, army bases, and industrial estates and alongside airports.

35 MW Kencot Hill Solar Farm at disused WW2 Airfield, Oxfordshire

35 MW Wymeswold Solar Farm at Wymeswold Airfield, Loughborough.

45 MW Deeside Solar Farm beside Deeside Industrial Estate, Flintshire, Wales.

50MW West Raynham Solar Farm on runway at West Raynham Airfield

50MW Coltishall Solar Farm at RAF Coltishall

50 MW Defford Solar Farm at Defford Airdrome, Worcestershire

Northern Ireland cannot absorb solar power stations of this magnitude into the landscape in the same way that larger countries are able to do.

Some of the local and brownfield sites that Kells VOCAL would have expected the applicant to demonstrate a consideration of are:

Woodside Industrial Estate; Pennybridge Industrial Estate; The Ecos Site; the roof of Fairhill Shopping Centre; the roof of Tower Centre; the roof of Junction One; St Patrick's Barracks site;

Land at site formally known as Ballymena Construction Company on Queen Street/Toome Road; land at site formally known as Cosby's, Douglas Terrace/Paradise Avenue and Larne Street ; John Crane site, Queen's Street (borders onto Cosby's site) Toome Road site Tullygarley behind Ballee Cemetery, which is also in close proximity to an electrical substation.

Nutts Corner, Belfast International Airport, Maghaberry Prison, Masserence Barracks.

This development would have an adverse impact on our community for the remainder of their lives and would continue to impact upon their children and grandchildren.

Please request that the agent submits the following information so that it can be assessed prior to any decision being made.

Details of all the sites that the applicant claims to have considered across the length and breadth of N Ireland i.e. at regional and local level; where the alternative sites were located; why they were chosen for consideration; the pros and cons of each site and the reasons why each was set aside in favour of this inappropriate location.

In the absence of these details, this planning application should be refused because the applicant has failed to include evidence of the required consideration of alternative sites

Kells VOCAL objects that the applicant has not provided the required information about Regional or Local alternatives and has made no attempt to use a brownfield site.

4.7 Alternative Infrastructure layout

In NIEAs consultation response letter dated 12/8/2014 it states:

“Environmental effects of particular concern include the potential impact on visual amenity and landscape character resulting from development of an area of land of high amenity value to the north of Whappstown Road that includes the small lake, wetlands and environs”.

RPS States:

*“Further focused environmental surveys helped to identify locations within the larger land holding which were more sensitive to development. **In accordance with their robust approach and commitment to environmental excellence Elgin excluded these areas from development”.***

And

“The illustrated areas to the west of Whappstown Road surrounding the existing pond (Insert Box point B- Figure 4.9 below), as well as an area of species rich marshy grassland to the extreme northwest of the development site (Insert Box point C – Figure 4.9 below) which it was decided to exclude from the application site boundaries”. (Alternatives-figure 4.9 Infrastructure layout November 2014)

RPS has chosen to omit the very important fact that the site plan was then changed at the last minute in June 2015 **to take in the area which it had previously stated was being left out of the development (Reference Figure 4.9 Layout Infrastructure November 2014.)**

Thus, the applicant subsequently performed a spectacular environmental U-turn and parted ways from its 'commitment to environmental excellence' by taking in the sensitive areas around the lake and Rath in such an **environmentally insensitive** manner that their solar arrays would now be deployed across the species rich habitat close to the lake and tight around the archaeologically sensitive Rath. (Alternatives - Figure 4.10 Infrastructure Layout presented to DOE – June 2015)

Figure 4.10 Infrastructure layout June 2015 was:

'The preferred site option brought forward to be considered for planning consideration'

Point 9.3 of the Archaeology and Cultural Heritage document states:

"Two recorded archaeological features (Ant 38:35 and 38:46) are located close to the lake but remain **outside** the site boundary".

It is of great concern that, since the applicant's decision to discard Infrastructure Layout November 2014 (Fig 4.9 Alternatives Section of ES) in favour of Infrastructure Layout June 2015 (Figure 4.10) the above claim is no longer correct. Elgin's archaeology map of the site (Figure 9.2 June 2015) of the Archaeology and Cultural Heritage section of the ES illustrates clearly that Feature 38.35, the early Christian Rath is now **inside** the development site that was redrawn when the applicant was required to remove solar arrays back from the edges of Whappstown road due to unacceptable visual impact and loss of both visual and residential amenity.

Elgin has obviously decided to set aside its 'commitment to environmental excellence' in favour of squeezing as many panels onto the site as possible, even if it means deploying arrays tightly around the Rath, earthworks, lake and wetlands.

Kells VOCAL objects that areas of greatest environmental sensitivity have been re-included in the proposed development site.

Kells VOCAL objects that the Alternatives section of the ES does not contain a proper consideration of alternative sites.

Proposed Solar Power Station, Kells: LA03/2015/0234/F**Section 5 Plans & Policies****Introduction**

Kells Voice of the Countryside Alliance (KellsVOCAL) have formulated an objection to the proposed development LA03/2015/0234/F, which is representative of the views of many residents who are immediately affected by the proposal and also those in opposition to the proposed who live outside the directly affected area.

KellsVOCAL are not opposed to renewable energy; we are supportive of efforts to reduce greenhouse gas emissions and measures to ensure sustainable and cleaner energy supply. We are opposed to the proposed development and have compiled the below response following consultation with residents, local businesses and regular visitors to the area who have raised objection to the proposed development.

We have also undertaken research relative to the proposal and have compiled the information for consideration by the Department in reaching a determination.

Individual sections within the purported ES submitted by the agent will be dealt with under each section.

This response to the submitted ES strives to give the department an overview of the concerns of the community represented by the committee of KellsVOCAL.

Context

The proposal seeks to take over 250 acres of open and undulating countryside current used for agricultural purpose and transform it into an industrial power station surrounded by security fencing and incorporating CCTV and other associated infrastructure for at least 25 years.

To put scale of the proposal in some context, the proposed development covers twice the footprint of Kells and Connor villages combined.

Many affected residents who are concerned that the proposed solar installation will be imposed upon them would deem this as non-temporary as many elderly residents may well have passed away by this time and younger residents will have lived beside the installation for the best part of their lives.

A major concern of residents is the close proximity of the proposal to residential property and many will be hemmed in by high security fencing at the boundary of their property, some will almost be surrounded, effectively imprisoning people within their own homes for the same length of time as a Life Sentence carries in the Criminal Justice System.

Loss of visual amenity is a major issue not just for local residents but also for anyone passing by or visiting nearby beauty spots such as Slemish Mountain and concerns have also been raised concerns for the significant, lost lasting impact on wildlife and natural habitats, impacting on a range of species including those with European or regional protection.

The “Ten Commitments” of the Solar Trade Association of which Elgin Energy is a member states that, *“land should aim to avoid affecting the visual amenity of landscapes, maintaining their natural beauty and should be predominantly flat, well screened by hedges, tree lines etc., and not unduly impact upon nearby domestic properties or roads”*. This application by Elgin Energy Ltd is in breach of all these fundamental aims.

Applications for Renewable energy, both wind and large scale solar, have increased dramatically throughout Britain and Ireland over recent years. Whilst wind farm applications in NI have grown at a similar rate, this province has been largely ignored by solar PV companies until this past few years when applications have taken off at an alarming rate (around 65 applications that are known at a high level in the past 12 months).

We believe that this is directly related to legislative changes in Great Britain and Republic of Ireland, which have been put in place in response to public and political condemnation of large-scale solar installations in open countryside. Liz Truss as Environment Secretary stated that solar farms are “a blight on the landscape” and “I am very concerned that a lot of our land is being taken up by solar farms. We already have 250 of them and we’ve got 10,000 football pitches worth of new solar in the pipeline”.

NI is not considered as a viable option for large-scale solar installations due to its latitude and cloud cover. BRE research and the solar industry itself have previously decreed that latitudes above Birmingham were not viable for large-scale solar energy production. Current planning legislation in Northern Ireland specifically governing renewable energy applications, namely PPS18, is heavily weighted towards consideration of wind farms and only small-scale solar installations, primarily on buildings. There is therefore no legislation in place to manage the integration of large-scale solar installations into the fabric of Northern Ireland. There is no sequential testing in Northern Ireland, similar to that being put in place in legislation in England and Wales to ensure that the most appropriate location is chosen for large-scale solar developments.

This means Northern Ireland is exposed in that there is no strategic consideration given to appropriateness and no preference for brown field sites over open countryside; no consideration of proximity to housing. Without the benefit of a purpose-written policy that might take into account the lessons learned from the mainland UK or other jurisdictions we have concerns that energy companies could exploit the current legislation (or lack thereof), together with NI's renewable energy production incentives paid by the UK taxpayer, in a random and opportunistic way purely for financial gain.

Our research would indicated that sites are being targeted by solar companies which are close to electrical sub stations, this is the case in this application, the site was chosen close to the Kells substation and as many panels as possible crammed into the farmers land.

The Department will be aware of this practice based on previous applications and surely must agree that this is purely opportunistic and does not take into account any strategic consideration of the appropriateness of the site either on a regional or local level, despite any claims made by the applicant.

It is somewhat concerning that this site was chosen when more appropriate sites are in close proximity such as The Ecos Centre, Nutts Corner, Belfast International Airport, Maghaberry Prison, Masserene Barracks, roof of Fairhill Shopping Centre, roof of Tower Centre, roof of Junction One, St Patrick's Barracks, John Crane site, Pennybridge Industrial Estate, Land formally known as Ballymena Construction Company on Queen Street/Toome Road, Land formally known as Cosby's on Douglas Terrace/Paradise Avenue or Toome Road site Tullygarley to the rear of Ballee Cemetery, which is also in close proximity to an electrical substation.

In England, where sequential testing is a requirement of planning, the largest solar developments are all located on disused airfields or adjacent to industrial parks: Faldingworth (50MW) former Faldingworth RAF airbase in Lincolnshire; Defford(50MW) solar PV installation at Defford Aerodrome in Worcestershire; Wymeswold(34MW) solar PV farm at Wymeswolds Airfield near Loughborough; Deeside (45.7MW) solar PV park located alongside Deeside Industrial Estate in Flintshire, Wales; Coltishall (49.9MW) solar park at Coltishall WW2 RAF Airbase in Norfolk; West Raynham (49.9MW) solar park West Raynham RAF airfield near in Norfolk.

We have genuine concerns that should planning approval be granted for this application, a dangerous precedent will be set for similar large scale solar development within the open countryside which will have widespread negative environmental, economic and social implications.

We would argue that there is currently no appropriate legislation, which governs this proposed development; the Department has already recognised that this type of application is rare "Industrial scale installation for the production of electricity which exceeds 0.5 hectares is listed in Schedule 2 and would therefore require a Screening Option. Such large scale PV installations, however, are rare in the UK" (6.4.2, Pg. 75, Best Practice Guidance to PPS 18). In the absence of appropriate legislation to govern large scale solar installations, our recommendation is that the Department defer the decision in respect of this application and other similar applications.

A Public Inquiry would allow all the issues associated with this massive proposal to be fully scrutinised. This will also provide the time necessary for new policy to replace the inadequate PPS18 to be put in place.

We believe that specific legislation is essential to afford appropriate consideration of the issues and the learning experiences from other jurisdictions.

Additionally, we are concerned about the business structure of solar energy companies in Northern Ireland, including the applicant for the proposed development. This is a fundamental issue and a material consideration for the Department in reaching a determination on the proposed development as the company must generate enough income and be sustainable enough to ensure that the decommissioning phase can be completed once the solar panels would have no further use.

Having completed some research, we have noted that in the past year, a number of companies have set up Limited companies under their holding company specific to various Solar Farms in Northern Ireland. These include Kells Solar PV LTD & Rasharkin Solar PV LTD, both registered in 2014 with Elgin Energy acting as the holding company.

The issue is not unique to Elgin Energy and hundreds of Limited solar energy companies have been set up with the names of towns or villages in Northern Ireland within the last few months. How many hundreds of solar farms similar to the proposed development are in the pipeline and what are the real impacts beyond the glossy information leaflets supplied by these companies?

This limited status provides protection to the company, to the limits of its assets, should the company become insolvent. In the case of solar panel installations, Planning Permission is granted on the basis of the land being returned to the original use after a period of time and it should, particularly in the case of large-scale installations, conditions requiring the decommissioning of the installation and reinstatement of the land to original use is essential but also Bonds should be introduced to ensure that this will be completed.

Our concern with the limited status of the energy company, set up specifically for each installation and therefore limiting its liabilities to the limits of its assets. These companies will have negative assets as there is no value in scrap solar panels. The opposite is the case as these panels contain toxic substances and are classed as hazardous waste. The cost of disposal is prohibitive.

To highlight the scale of this potential problem, our research shows that 4 of the energy companies that we know of have between them formed 65 limited solar companies in the past 12 months. Each of these limited companies represents a potential large-scale solar installation in Northern Ireland (over 5MW - or 20,000 solar panels). Therefore it can reasonably be predicted that the Department will receive around 65 applications for large-scale solar PV installations in the coming months.

This planning application for a 50 MW Solar PV installation (approximately 200,000 Solar Panels) covering 250 acres of open countryside in Kells runs counter to PPS21 and is outside of the remit of PPS18: it is adjacent to houses; intersected by public roads and visible from surrounding highways. If constructed, it will be the largest solar power station in the UK and Ireland.

The danger for Northern Ireland countryside is that if this application is approved, every application thereafter received will also have to be approved. Should that be allowed to happen, then in 25 years' time NI will have in the region of 1,300,000 - 13,000,000 solar panels spread over between 1,625 - 16,250 acres of open countryside all to be restored to pasture land, the solar panels to be decommissioned, recycled and their carcinogenic chemicals safely disposed of.

In 25 years the recycling of these panels and the safe disposal of their carcinogenic materials is likely to cost an extortionate sum of money. Take asbestos as an example, in 1985 its use and importation was banned, yet even now Northern Ireland does not have a facility for the disposal of asbestos and it costs thousands of pounds to remove even a small domestic quantity of asbestos from a private home in Northern Ireland, let alone a large scale industrial development.

There is no disposal or recycling plant in whole of the UK or Ireland for solar panels, and therefore panels will have to be transported at the end of their useful life to a facility that can manage the safe disposal of carcinogenic or hazardous material.

This process is likely to be very expensive and it is the realisation of this that is driving England and Wales to legislate for financial security of solar panel decommissioning at the point of granting Planning Approval.

Unlike Asbestos however, the panels must be removed within a certain timeframe (usually around 30-40 years from their installation) as they degrade with time and may leech hazardous or carcinogenic material into the surrounding habitat causing untold damage environmentally, economically and socially.

In terms of planning approval in Northern Ireland, the onus is on the landowner for the decommissioning as planning permission goes with the land, not the applicant. However, in terms of the legal lease agreement, the onus is on the limited energy companies, but as they are each only liable to the limit of their assets (the scrap value of 30-year old solar panels) it is unlikely that this scrap value will cover even the cost of their removal, let alone their recycling. In the face of a large bill for decommissioning, the solar company can only declare insolvency (the parent company have walked away with the profits some years earlier) so there will be no money coming from the solar company to pay for decommissioning. It is reasonable to therefore assume that given the case where this were to occur that the landowner may be required to fund disposal of panels on their land, which in the case of the proposed development could potentially cost millions of pounds.

The only other party involved in this process is the authority who gave the approval, and having done so in the full knowledge of the problem and having failed to take reasonable measures to mitigate against it, is likely to be found liable for the decommissioning costs. In order to ensure that that Councils are not left to foot the bill for decommissioning thousands of acres of solar farms across NI in 25 years, we need to look at what England and Wales are putting in place to mitigate against this.

As stated earlier KellsVOCAL believe that a Public Inquiry is now the only avenue open to scrutinise the many real concerns of environmental damage, Health and safety risks and economic disaster posed by large scale solar installations.

A Public Inquiry will enable the Department to make tenable determinations in future applications. The regional significance of this proposed development, the absence of any similar previous applications, lack of appropriate or specific legislation and the potential negative impact on the local community and the economy are sufficient grounds for a Public Inquiry

Strategic Legislative Considerations

We understand that legislation from other jurisdictions cannot be applied directly to this proposal, however large scale solar developments are more commonplace in mainland UK and therefore it would be remiss of the Department not to consider learning experiences. There are also some relevant pieces of legislation, which we bring the attention of the Department to in relation to some Legislative issues which directly affect the proposal and some which should not be ignored.

Aarhus Convention

The Aarhus Convention is European Union legislation, which affords the public the right to participate in environmental decision making. KellsVOCAL members have been refused this opportunity to meet with the applicant (Elgin Energy) on numerous occasions, the applicant has also refused to participate in public meetings organised by KellsVOCAL or to participate in radio or television debates.

The applicant did arrange a meeting in the Ross Park Hotel in November 2014, which was mailed to residents giving one or two days working days' notice, maps and information produced were out of date and the applicants refused to present to the assembled community or comment on any of the concerns raised. The notices in local press were innocuous and did not give any indication of the scale or impact of the proposal, we urge the Department to consult with and seek a view from the Advertising Standards Authority as many residents believe that this was a deliberate tactic to mislead. This was not public consultation and as such the community most affected by the proposal have not been afforded the opportunity to engage with the applicant in respect of this proposal.

We understand that the Department validated the application in the absence of the Environmental Statement, and that the application was validated on Friday 26th June 2015 to avoid the commencement of regulations in respect of public engagement from Wednesday 1st July. The application was validated without a block layout plan, a site location map and the Environmental Statement. A block layout plan and a site location map are still missing as of 28th September. The ES was made available on 8th July.

KellsVOCAL believe that the community and residents most affected should be afforded the opportunity to engage openly in respect of the proposal and are calling on the Department to intervene in the failure of the applicant to complete this and to call a public meeting of all affected parties along with the applicant to discuss the proposals.

We are concerned that should the Department reach a determination in the knowledge that public consultation was refused, that the Department would be in breach of the Aarhus Convention, if in deed the actions of the application in refusing community engagement to date are not already in contravention of the Aarhus Convention.

UK Human Rights Act – Article 8

Article 8 of the UK Human Rights Act relates to the Right to Respect for Private and Family Life, KellsVOCAL believe the proposed application is in inconsistent with this.

The inappropriate nature of and poor ‘tick box’ attempts at community engagement has resulted in frustration and negative impacts within the most affected community as many feel that their voice is has not been heard. If residents have not had a fair opportunity to consult and express their views in an open forum and this failure is having negative impact on individuals and families the Department must intervene to ensure that any decision taken are not deemed to be in contravention to the Human Rights Act.

For residents on the Whappstown Road and the Ross Lane, the development will in some cases surround or abut their homes creating an oppressive environment in which they will be forced to live because they will be unable to sell their homes.

Some residents are attending the doctor and are not sleeping since they heard of these plans. This has severely impacted on their health.

There is potential noise disturbance from the 40 (or 100) invertors and this has not been considered in the Environmental statement.

The development would have security cameras and great concerns have been raised by residents, especially those with minimal or no buffer zone that the presence of CCTV will impinge upon the right to privacy in the home and garden, residents with children are gravely concerned about images being captured. This is in breach of Article 8 (Right to respect for private and family life) and First Protocol Article 1 (protection of property). We understand that the cameras are there to survey the outline of the security fence but it is such an irregular shape that the line of vision will undoubtedly impinge on private amenity space, also there is no guarantee that cameras would not point directly into residential property as a result of the wind, animals or unscrupulous employees.

In the case of Britton V SOS, the courts reappraised the purpose of the law and concluded that protection of the countryside falls within the interests of Article 8 of The Human Rights Act 1998 - Privacy and Family Life - and therefore encompasses not only the home but also the surroundings.

UK Strategic Energy Framework

Context in Republic of Ireland Legislation from the Republic of Ireland cannot be applied to this proposal, however we believe that some consideration must be afforded to another jurisdiction within the same island to understand why Northern Ireland is attracting an increasing number of proposals for industrial type renewable energy installations.

Northern Ireland Strategic Legislative Considerations

In the absence of appropriate planning legislation to govern large-scale freestanding solar installations, we strongly urge the Department to withhold judgement in respect of this proposal until appropriate legislation is introduced. Should the Department decide to proceed with the determination we urge the Department to undertake a Public Inquiry. We have undertaken a basic analysis of the strategic legislative context in Northern Ireland to aid the Department should the decision be taken to proceed in reaching a decision and believe that the proposed development is at odds with some of the key strategic legislation in Northern Ireland.

Programme for Government 2011-2015

KellsVOCAL support the appropriate integration of renewable energy and welcome the commitment within the 'Programme for Government 2011-2015' which states "encourage achievement of 20% of electricity consumption from renewable sources and 4% renewable heat by 2015" (Pg. 9).

We do not however believe that this proposal is inappropriate within the open countryside and would point to other commitments within the 'Programme for Government 2011-2015' including "work towards halting the loss of biodiversity by 2020".

We also refute the energy production claims made by the applicant in respect of the proposed installation and would urge the Department to undertake an independent and impartial evaluation in respect of the ability of the proposed development to produce electricity in the currently proposed location to obtain a more accurate reflection of the potential energy production.

KellsVOCAL believe that the argument on behalf of the applicant in respect of CO2 reduction has been over simplified to show bias in favour of development. In actual fact, intermittent energy supply (i.e. on a cloudy day when the sunlight is variable) actually creates more CO2 as the coal and oil fired power stations need to keep spinning, revving up and down to balance out the erratic power supply provided by the renewables.

A very basic comparison can be drawn with fuel consumption in your car, when you drive along the motorway at a steady speed consumption is lower than if you constantly speed up and slow down. This has real negative implications and using Germany as an example which currently has 27% renewables (Northern Ireland are currently around 20%) and this high percentage of erratic power supply has pushed Germany into increased use of heavy oil and coal power plants, which is why Germany released more carbon dioxide into the atmosphere in 2012 than in 2011. Germany's policies were hailed as saving the world from climate change; however in reality CO2 emission increase by 1.8%, largely due to the issues of intermittent supply.

Consumer prices in Germany shot up by 200% as a result and are currently the second most expensive electricity in Europe. This is threatening their whole economy to the extent that in 2014 Germany's Economic Minister announced that its transition to Renewable Energy was, "On the Verge of Failure." According to Nature, the international science magazine, this year German consumers will be forced to pay €20bn to subsidise electricity from solar, wind and bio-gas plants, power with a real market price of €3bn. Two thirds of the electricity price increase is due to new government surcharges and taxes to subsidise renewable energy.

The directive to produce more energy from renewable sources is born from European wide commitments to reduce CO2 production and to ensure security of supply. KellsVOCAL research indicates that the proposed development would be vastly more ineffective in producing electricity than the claims provided by the applicant.

The Department should therefore undertake independent and impartial research upon which tenable decisions can be reached. A public Inquiry should be called.

Regional Development Strategy 2035

KellsVOCAL support the notion of developing a robust and sustainable energy framework alongside reduction of pollutants and greenhouse gas emissions within Northern Ireland as referred to within the 'Regional Development Strategy 2035'. We believe that the proposed development is not in keeping with the 'Regional Development Strategy 2035' in particular 3.101 (pg. 75) which states, "The expansion of rural tourism and development which is both sustainable and sensitive to the environment should be encouraged. This includes the ability of settlements and landscapes to absorb development". We would contest the appropriateness of the proposed location given the scale and nature of this development, as is not in keeping with the existing rural character of the area.

KellsVOCAL has compiled a response to the agent's Landscape and Visual Impact Assessment based on the proposed development which highlights the inadequacies of the ES and the negative impact that development will have upon the visual amenity of the rural area. The site is bounded or traversed by three roads (one of which is the main arterial route from Doagh to Ballymena, and is additionally visible from roads further afield. The undulating landscape is inappropriate for the installation of a large solar power station because it allows the industrial nature of the proposal to be visible from surrounding roads and further afield. The topography of this area is unable to absorb this proposal. Additionally, approval of any such scheme in this locality would spread the current tight corridor of renewables and energy infrastructure beyond its limited zone of influence into an area, which has thus far remained as beautiful open countryside.

The 'Regional Development Strategy 2035' also states "New generation or distribution infrastructure must be carefully planned and assessed to avoid adverse environmental effects, particularly on or near protected sites." (Point 3.8, Pg. 35). KellsVOCAL believes that the proposed development would have adverse impact on the built and natural environment within the proposed site but also much wider due to the impact on natural ecosystems.

We would encourage the Department to further investigate the extent of the site assessment undertaken by the applicant, as residents have raised concerns that the site was chosen through random opportunism as opposed to a strategic analysis of appropriate sites.

The area has never been designated through the Area Plan, or otherwise, as suitable for industrial development or energy production. On this basis we believe that the development should be refused on the basis of 'Prematurity' as described in PPS 1: General Principles. A decision to approve would prejudice the ability of the new RDS to achieve general conformity. This is evidenced by the lack of rigour in previous approvals issued by Planning for large scale solar which have failed to include a decommissioning clause in the approval notice.

A decision to approve this application would prejudice the outcome of the plan by predetermining decisions that are currently being taken in preparation of the RDS. Such decisions would have an adverse impact on the landscape, in this case, which is an environmental asset protected under The Landscape Charter, an EU Charter that protects all landscape not just AONB and which has been signed by the Minister of the Environment.

The Department must issue a refusal on grounds on prematurity. The nature of the proposed development does not constitute farm diversification: it converts the whole of the farmland (all 250 acres) into a single solar PV power station; its scale, nature and impact of the proposal on the farm is not akin with farm diversification.

We would implore the Department to refuse this particular proposal, and defer decision in respect of similar proposals, until a strategic analysis is conducted of appropriate sites for developments of anything over 5MW in the open countryside.

DETI – Strategic Energy Framework

The legislation confirms a target of 40% of electricity consumption from renewable sources by 2020 as well as achieving 10% penetration of renewable heat, in addition to mandatory EU renewable targets of 20% electricity production from renewable sources by 2020. KellsVOCAL have undertaken some research in respect of the ability for the proposed installation to produce electricity at the proposed location and would argue that the proposed development would be vastly more ineffective in producing electricity than the claims provided by the applicant.

KellsVOCAL has learnt that the EU mandatory targets have already been exceeded through planning approvals and National Grid Capacity is at 80%, therefore the requirement for the proposed development is negated. We also understand that the proposed development is proposing to connect to the NIE substation on Maxwells Road, however we have learnt that the sub-station is already at 85% capacity. Should the development generate the 50MW claimed by the applicant, we would encourage the Department to consider how this would feed into the sub-station as proposed and would further development to the sub-station be required.

One of the major problems with solar energy is that it is not commercially viable without huge government subsidies including long-term contracts by energy utilities to pay 2-4 times the going wholesale electric rate for solar generated power.

These charges are passed on to the consumer and in Germany (which has 27% renewables) consumer prices shot up by 200% to become the second most expensive electricity in Europe. This is threatening their whole economy to the extent that in 2014 Germany's Economic Minister announced that its transition to Renewable Energy was, "On the Verge of Failure." According to Nature, the international science magazine, this year German consumers will be forced to pay €20bn to subsidise electricity from solar, wind and bio-gas plants, power with a real market price of €3bn. Two thirds of the electricity price increase is due to new government surcharges and taxes to subsidise renewable energy.

Back in Kells, calculations estimate that Elgin Energy stand to have an income of over £122 million over the next 25 years for the Kells Solar Power Station alone, the Department should request that this figure is verified by Elgin.

Over 50% of this will be paid for by the taxpayer in a levy on their electricity bills. At present each consumer in NI pays a levy of £17.25 per annum towards subsidising renewables for developers. However, the Executive have been advised this will treble to cover the costs of the current renewable levels and if we go to 40% renewables, as currently planned, the levy will increase six fold to around £103.60 per household per year.

The price of electricity affects the whole of our economy and soaring electricity prices due to increasing tax levies will be detrimental to the recovery of our economy post-recession. This is not an economically sound proposal and does not stack up in a post-subsidy context and should be refused as it will have a negative impact on the regional economy.

Northern Ireland's Landscape Charter

We draw your attention to Northern Ireland's Landscape Charter. This important charter, signed by both the Minister of Environment and the Chief Executive of the NIEA in January 2014, underscores the European Landscape Convention, signed by 37 countries, and places particular value on regional and local landscapes. It defines *'landscape'* as *'an area as perceived by people whose character is the result of the action and interaction of natural and/or human factors'* and *'it concerns landscapes that might be considered outstanding as well as everyday or degraded landscapes'*. The members of KellsVOCAL have all signed up to this charter and are committed to taking determined action to fulfil this vision and affirming its principals as follows:

1. Our landscapes are an essential aspect of our sense of place and belonging.
2. Our landscapes contribute to our health, well-being and quality of life.
3. Our landscapes are for all of us as part of our national and community identity.
4. Our landscapes reflect the multiplicity of our history and culture.
5. Our landscapes shall continue to inspire expression in words, sound and images.
6. Our landscapes shall continue to express who we are and have been as people.
7. Our landscapes shall continue to attract others to visit and generate wealth.
8. Our landscapes shall continue to attract individuals and businesses to locate here.
9. Our landscapes shall assist in marketing the export of our goods and services.
10. Our landscape and its management shall become an example to other nations.

As a Government body acting under the guidance of the Minister of the Environment, KellsVOCAL ask you to abide by the Charter's Six Guiding Principles in Decision Making which are:

1. All landscapes matter and each of us has the right to derive the benefits of those places that matter to us.
2. Each of us respects this in all places even when they are not our own because our landscapes are a shared asset for which we have to exercise care and responsibility.
3. Each distinctive sense of place collectively adds more value to the variety and uniqueness of Northern Ireland's landscape than the sum of each part.
4. Change is continuous but we can manage it by using evidence to inform policy and decisions that respect and enhance the character and value of our landscapes.
5. Transparency and communication about how the diversity, distinctness, history and character of our landscapes are considered engenders awareness and confidence.
6. Each of us is responsible and empowered to shape the future of our landscapes in the actions and decisions taken now by us and others on policy and development.

Unusually for development in the countryside, this proposal spans for approximately 1.2 miles across 250 acres of undulating farmland. From the Doagh Road it will be seen at the junction of the Doagh Road and the short stub road that leads up to the Ross Lane. The current attractive grouping of houses framing the extended slope of fields rising up to Mann's Hill will now frame an industrial scale development in the fields.

Reference can be made to the visual impact of the nearby power substation, which has a hugely negative impact on its immediate neighbourhood, and it is of a much smaller scale than the proposed field destruction proposed here.

The little grouping of 12 houses that form this Ross Lane cluster corresponds to the traditional character of hamlets traditionally found throughout rural NI. Clearly Planning Service has seen the granting of permission here for an extensive number of houses as acceptable within the countryside setting framing the rural prospect that surrounds them. However, Elgin's proposal detrimentally changes the character of this area when it directly abuts these residential properties in such a crude manner and with no regard to the loss of residential amenity for around 36 residents or change of rural character.

On the Speerstown Road, the fields will be replaced by an industrialised landscape in full visibility of the busy public road. There are no hedges here due to the harsh microclimate of this area (this is the character of the area - Tardree Uplands Pastures into which two thirds of the application falls) wild and windswept. The developer has offered to plant a few meters of native trees but that is not acceptable as they are not augmenting existing mature trees and hedges. They will take years to establish without protection from existing mature landscape. The result will be a complete change of rural character of this area and loss of visual amenity.

On the northern Craigstown Road there are a number of intermittent views of the proposed development. The impact is not as directly crude, visually, as that proposed for the Doagh or Speerstown Roads, but what is noticeable is the extended length of visual impact of it. The overriding visual and psychological impression will be of relentless industrialisation over a never ending distance. It is hard to imagine anywhere else where such a blatant intrusion into people's visual amenity has been sanctioned.

The proposed solar PV power station straddles the Whappstown Road, abutting residents' private gardens and in some cases completely surrounding them (No's 13 and 15). The Whappstown Road is particularly attractive road and is enjoyed as a rural amenity by walkers, runners, cyclists, horse riders and pony and trap enthusiasts. It also is home to the RSPB reserve and a wetlands area. The area is bounded by low or sparse hedges and as you rise up above the snow line, the vegetation decreases further to give way to open hills farmland with extensive fields, areas of wetlands, lakes and dams. This is what makes this area particularly beautiful to residents and visitors.

This application is contrary to the aspirations of Northern Ireland's Landscape Charter, which was signed by the Minister of the Environment and the Chief Executive of the NIEA in January 2014. This underscores the European Landscape Convention, signed by 37 countries, and places particular value on regional and local landscapes. The latter became legally binding in the UK on 1st March 2007. This Charter defines *'landscape'* as *'an area as perceived by people whose character is the result of the action and interaction of natural and/or human factors'* and *'it concerns landscapes that might be considered outstanding as well as everyday or degraded landscapes'*.

This proposal by Elgin does not in any way protect our landscape heritage -by contrast, it seeks to ride roughshod over it and turn it into an industrialised wasteland for their own profit. We therefore urge the Department to take seriously their responsibilities under the terms of this Charter and European Landscape Convention and refuse this application, which will be a blight on 250 acres of open and undulating rural landscape currently enjoyed by our community and visitors to the area.

DoE Case officer Guidelines for processing Solar Farm applications – July 2015

It appears that these guidelines have been produced in recognition of the lack of policy and the realisation that the current legislative context in Northern Ireland for assessing proposals similar to the proposed development is weak. KellsVOCAL has requested information from the Department, Mid and East Antrim Council and Antrim & Newtownabbey Borough Council in respect of ground mounted solar panel installations. It is apparent that the extent of the issue is not known and we therefore urge the Department to hold a moratorium on this and similar applications until the extent of the issues is understood and appropriate legislation can be introduced.

These guidelines refer to a range of issues, which affect the proposed development such as “Solar arrays can have implications for habitat loss, fragmentation and modification and for displacement of species” (Pg. 14) it continues “European protected species (such as bats and otters), nationally protected species (birds such as hen harrier and curlew, also badgers, lizards, newts, marsh fritillary) and propriety species”. The proposed development would lead to the industrialisation of over 250-acres of open countryside, rich in a wide range of protected species including birds (Curlew and Hen Harrier), bats, badgers, otters, fish spawning sites and many other species. The Environmental statement provided by the applicant is biased and greatly underplays many of the species located in the area, the Department must undertake independent and impartial research to determine to actual impact the proposed development would have on wildlife and habitats.

The guidelines also refer to residential amenity “It is therefore advised that the potential impacts in the locality of the site are assessed (visual impacts, noise, traffic, boundary treatments, lighting etc.)”. The visual impact of the proposal will be huge due to the undulating nature of land where it is proposed and the irregular shape of the site boundary, which abuts, and in some cases surrounds residential property. Residential amenity will also be impacts in respect of access to the countryside, as the boundary cannot be crossed and the high fencing will trap many residents in their homes like prisoners. The noise from over 40 invertors and other associated infrastructure has not been adequately assessed through the Environmental Statement and we urge the Department to undertake an independent review of the potential noise implications for residents.

Existing Planning Legislative Considerations

KellsVOCAL strongly urges the Department to defer decision in respect of this particular proposal and other similar proposals for large scale ground mounted solar installations until the specific planning legislation to govern industrial scale freestanding solar developments is introduced. Should the Department decide to proceed in the absence of appropriate legislation we would urge the Department to instigate a Public Inquiry and would draw the attention of the Department to a number of breaches of existing planning legislation based on the proposed development.

KellsVOCAL believe it is necessary that the Department, in the interests of impartiality and fairness, defer any decision in respect of this proposal until an independent evaluation is conducted regarding the 'benefits' claimed by the applicant as we believe these to be grossly overestimated. The Environmental Statement provided on behalf of the applicant is in our opinion of poor quality with many gaps or inaccuracies and is grossly biased in favour of the development. As such, it is not appropriate to use the Environmental Statement provided to base a decision upon and we insist that the Department seek an impartial assessment or conduct their own assessment upon which a tenable decision can be reached. KellsVOCAL believes that the proposed development would have negative impacts environmentally, economically and socially.

Impact of final Strategic Planning Policy for Northern Ireland (SPPS).

SPPS states under 6.225 that *'The wider environmental, economic and social benefits of all proposals for renewable energy projects are material considerations that will be given **appropriate** weight in determining whether planning permission should be granted.'* We also draw your attention to the following statement by the Minister, Mark H Durkan ref: Hansard, Committee for the Environment, 15th Oct, 2015.

"I eventually managed to tweak PPS 18 ...to tighten up a line in the original PPS 18 that we thought was pretty permissive. Time after time, the Department, where it had seen fit to refuse permission for a wind farm, was being beaten on appeal because of that particular line in the planning policy statement. Originally, it was that "significant weight" would be given to wider economic and environmental benefits. I just changed it to say that "appropriate weight" would be given."

We therefore ask the Department to particularly scrutinise the applicant's claims of benefit to the wider environmental, economic or social climate and have these claims externally and independently assessed before any appropriate weighting is attached to them.

We note the following key points under environmental, economic and social aspects:

- **Environmental** – The industrialisation of 250 acres of open countryside will have huge impact on the natural environment. We believe that a wide range of wildlife would be negatively impacted upon if this application were to proceed, including some highly protected species. The rural character of the area would be completely decimated by transforming it into an industrial solar power station and this proposal would be more suitable to an industrial zone or a brown field site preferably on land, which is also flat. The myth that renewable energy reduces CO2 emissions or fossil fuel dependency needs to be robustly challenged, as we believe that this argument is false. Energy supply is most efficient when there is a steady flow and intermittent energy supply (such as solar) actually increases CO2 production as fossil fuel has to be increased and decreased to match the fluctuations against the demand. We request that the department undertake an independent evaluation of this fundamental issue before reaching a decision on the proposed development.
- **Economic** – The myth that renewable energy is free energy needs to be robustly challenged as we believe that application is not economically viable without being heavily subsidised by the public purse through ROC Payments. I understand that the NI Assembly are set to phase out ROC payments by 2017 in realisation that they are not an efficient use of public money. Additionally the 40% target by 2020 is also under review and likely to be cut in line with the rest of the UK to 20% due to economic concerns of affordability of the ROC payments already committed to. We also have some grave concerns in respect of decommissioning if the proposed development were to proceed. I understand that there is no legislative context within which the Department could enforce the removal of panels by the applicant after they have been installed, we also understand that the panels cost as much to remove as they do to install as they have to be removed by a licenced contractor and there is no facility in the UK or Ireland that can dispose of them. There is a real risk that the cost of decommissioning therefore (approximately £50 million in this case) could fall back to the public purse. The applicant has also claimed that 569 jobs have been created, we believe this to be totally SPURIOUS and call on the Department to independently evaluate if there will be any actual job creation, post construction, as a result of this proposal.
- **Social** – The proposal is located on 250 acres of open and undulating countryside; the visual impact of covering green fields in over 200,000 solar panels, security fencing and other associated infrastructure would be colossal. The proposal abuts roads and residents' gardens and will have a direct negative impact upon residents and users of the country roads for recreational purposes (cyclists, horse riders, walkers, horse and trap enthusiasts). The site is so vast and would be so alien to the rural context that the impact would be felt much wider than the locality. It would affect negatively on tourism in the area and those who use the area for rural pursuits. There are also so worrying reports on the impacts of low decibel noise pollution and health implications for residents living close to these installations. A more appropriate location for this type of development would be on a brownfield site or industrial land, preferably on flat ground so the visual impact can be mitigated against. There is no way to mitigate against the visual impact of the proposed development given the undulating nature of the proposed site.

Prematurity under SPPS: the Antrim Area Plan and Ballymena Area Plan

Northern Ireland has no legislative context for sequential testing to determine the appropriateness of the location, as is the case in other parts of the UK. We believe that there had been no strategic consideration given to the location of the proposed development as many other more suitable brown field sites can be found a short distance away; we believe the site location is purely commercial given its close proximity to Kells electrical sub-station.

Both the Antrim Area Plan and Ballymena Area Plan confirm this, as the land has not been allocated as suitable for industrialisation as proposed. The proposed development is therefore a significant deviance from the Area Plans and would occupy substantial area (250 acres) and must be refused on the basis of prematurity as described in the Strategic Planning policy for Northern Ireland (SPPS) *“it may be justifiable, in some circumstances, to refuse planning permission on the grounds of prematurity. This may be appropriate in respect of development proposals which are individually so substantial, or whose cumulative effect would be so significant, that to grant planning permission would prejudice the outcome of the plan process by predetermining decisions about the scale, location or phasing of new development which ought to be taken in the LDP context. A proposal for development that has an impact on only a small area would rarely come into this category, but refusal might be justifiable where a proposal would have a significant impact on an important settlement, or a substantial area”* (Pg36).

Environmental Statement and SPPS

The SPPS states that *“transparency, fairness and accountable decision-taking are fundamental to ensuring all interests are taken into account”* (Pg23). We find the information provided in support of the application through the Environmental Statement grossly biased in favour of the development. We therefore do not believe that the Department can use this information supplied through the Environmental Statement, whilst remaining fair and accountable in taking a decision in respect of this particular application. Therefore we must insist that the Department refuse to consider the supporting information associated with this application and undertake an independent evaluation.

SPPS with respect to other policies

Planning Policy Statement 2: Natural Heritage

The SPPS states *“In determining planning applications planning authorities will also be guided by the precautionary approach that, where there are significant risks of damage to the environment, its protection will generally be paramount, unless there are imperative reasons of overriding public interest”* (Pg13). We believe that the proposed development could have a devastating impact and may cause irreversible damage to the rich natural heritage of the area and should therefore be refused as there is no overriding public interest.

Planning Policy Statement 6: Planning, Archaeology and The Built Heritage

The proposed development is unsympathetic and potentially irreversibly damaging to a Rath (ANT 38:35) and associated archaeological site (ANT 38:46) in the area. PPS 6 states *“Development proposals which would adversely affect archaeological sites or monuments which are of local or regional importance or their settings will only be permitted where the Department considers the importance of the proposed development or other material considerations outweigh the value of the remains in question”* (Pg15).

The SPPS states *“The natural and heritage assets of the countryside and coast need to be recognised for the contribution they make to enhancing human health and well-being. Conserving and, where possible, enhancing these environments as well as promoting their appropriate use, accessibility and connectivity is key to ensuring their sustainable upkeep.”* (Pg17). There is no way to assess the impact that the proposed development would have on the archaeological sites or undiscovered remains and therefore must be refused.

Planning Policy Statement 15: Planning and Flood Risk

The SPPS states that it is a regionally strategic objective to *“prevent inappropriate new development in areas known to be at risk of flooding, or that may increase the flood risk elsewhere”* (Pg61). The area where the development is proposed is a known wetland, prone to flooding on a regular basis, approval of the proposed development would exacerbate the effects of flooding.

The proposed development is located within a wetlands area, which is prone to flooding. The proposed development would increase the rate at which rainwater would enter the watercourses and increase the flood risk to residential and business properties local to the area or further along the watercourse. PPS 15 states *“ensure that the most up to date information on flood risk is taken into account when determining planning applications...”* (Pg.15). We would urge the Department to undertake an independent evaluation of the flood risk, as the proposal is contained within private land it is probable that statutory bodies such as Rivers Agency may not hold up to date information.

Planning Policy Statement 16: Tourism

The proposed development would restrict access to 250 acres of open countryside and as such could not be used by those who currently use the land for rural pursuits such as shooting or rambling. If approved the proposed development would be visible for miles, given the open and undulating nature of the existing landscape. It would therefore be visible from important tourist destinations such as Slemish Mountain. PPS 16 states, *“The safeguarding of tourism assets from unnecessary, inappropriate or excessive development is a vital element in securing a viable and sustainable tourism industry. To allow such development could damage the intrinsic character and quality of the asset and diminish its effectiveness in attracting tourists.”*(Pg32).

We believe that this development could set a dangerous precedent if approved with regional implications. We believe that the proposed development is particularly poor in terms of its widespread negative implications and if approved, it would be incredibly difficult for the Department to refuse similar development. This could potentially leave large sections of the Northern Ireland countryside covered in solar panels, which could significantly damage the tourist appeal of Northern Ireland and therefore the potential to attract external investment. On the basis of the regional implications of this development the Department must refuse this application.

Planning Policy Statement 18: Renewable Energy

It is our opinion that neither the SPPS nor PPS 18 are sufficient to deal with large-scale solar installations, including this particular application. I believe that the Department must therefore defer decision on this proposal until sufficient policy is in place to legislate for large-scale solar installations.

The SPPS states that a Regional Strategic objective is to “ensure that the environmental, landscape, visual and amenity impacts associated with or arising from renewable energy development are adequately addressed” (Pg90). The proposed development would have vast negative implications to the environment locally, regionally and globally due to fluctuations of supply, which actually have a net negative impact on fossil fuel dependency. There will also be a significant and potentially irreversible impact on local wildlife, which includes many protected species and therefore this has impact on global populations of protected species.

The scale of the proposed development coupled with the topography of the undulating countryside, the close proximity to roads and residents’ homes mean that the visual impact of the proposed site is simply unacceptable and the close proximity to residential property will have a huge negative implications upon residential amenity. The applicants have failed to address these concerns by not consulting fully with the local residents, KellsVOCAL or the wider community. We believe that consultation is necessary in respect of this proposal and as this has not yet been completed or even started, I would urge the Department to enforce that this is completed before this proposal is considered.

The information provided in support of the application is grossly biased in favour of development and inadequate for a regionally significant proposal (for example visual impact assessment does not even include winter photographs and wildlife audits are incomplete and appear to have been poorly executed if at all). The close proximity to residential property is simply not acceptable and surrounding residential boundary’s with 2.4 metre high fencing and 3 metre high CCTV and solar panel arrays can simply not be allowed because of the implications on residential amenity and safety of children living adjacent or close to this facility with around 6miles of security fencing.

The SPPS also states a Regional Strategic objective is to “ensure adequate protection of the region’s built, natural, and cultural heritage features” (Pg90). This proposal is so unsympathetic to cultural heritage that it practically runs over the top of a historic Rath and associated archeological site. It is similarly unsympathetic in terms of its approach to the natural environment. We are unsure what panels are being used or what they contain because this has not been specified, but the fact that they will have to be removed by a licensed contractor indicates that these contain many hazardous chemicals otherwise a licensed removal contractor - like for that of asbestos - would not be necessary.

What are these chemicals and happens to the chemicals if they leech from the panels and into the surrounding water courses? What happens to the residents in the area who still use well water for their person or animals? This has not been addressed through the application or supporting documentation. The siting of the location is also within an area rich in a wide variety of wildlife, much of which are highly protected species. There has been no effective mitigation offered or even an acceptable wildlife assessment within the supporting environmental statement (for example we are unable to find a reference to a bat survey, but we are aware that the area contains different species of bat). We believe that if this development were approved that implications to wildlife in the area of the proposed site (over 250 acres) would be devastated and may have implications at a European wide level owing the levels of protection afforded to some species (for example Curlew).

Planning Policy Statement 21: Sustainable Development in the Countryside (PPS 21)

The SPPS states that a regionally strategic objective is to *“conserve the landscape and natural resources of the rural area and to protect it from excessive, inappropriate or obtrusive development and from the actual or potential effects of pollution”* (Pg51). We fail to comprehend how the proposed development could be approved whilst complying with this objective given the nature, scale and location of the proposal.

PSS 21 states *“Developing a sustainable economy is also at the heart of the Programme for Government. Planning and other environmental policies must play their part in facilitating economic development but not at the expense of the Region’s rich natural assets and not at the expense of the natural and built environment.”* (Pg4). The proposed development would have wide ranging negative impact on the natural and built environment and before reaching a determination in respect of this proposal the Department must undertake an impartial and independent evaluation of the ‘benefits’ claimed by the applicant or agents commissioned by the applicant, as we believe these to be grossly overestimated. The proposed development is not in keeping with the rural character of the area; it is inappropriate in its scale, nature and location, which are supported by the lack of any strategic thinking or sequential testing to determine the appropriateness of the location. The proposed development is unnecessary as mandatory EU renewable energy targets in respect of 20% renewable energy production have already been met. The proposed development does not contribute to a sustainable rural economy as it is not economically viable in the absence of public subsidies through ROC payments and will create no jobs despite SPURIOUS claims by the applicant.

Other Planning Policies:

Antrim, Ballymena and Larne Area Plan 2016 Issues Paper

The Antrim, Ballymena and Larne Issues Paper is important to consider as it is the most up to date strategic assessment of the lands included within the proposed development. In referring to industry and commerce, the Issues paper states:

- 5.5.11 Land will be zoned for industrial and commercial purposes in the main towns in order to provide certainty in relation to the availability of such land.

- 5.5.12 In seeking to meet the need for new industrial and commercial sites the following factors, among others, will be considered:
 - conformity/consistency with the requirements of RDS policy;
 - the take-up of lands previously zoned for industrial and commercial development;
 - the level and nature of demand;
 - the extent and suitability of land currently zoned for industrial development and commercial development;
 - the availability of adequate infrastructure;
 - accessibility and the availability of transportation services;
 - environmental impact;
 - the opportunity to exploit local resources and labour markets;
 - the application of New Targeting Social Need to target groups or areas that can be identified as deprived.

The proposed development is not located within land currently or previously zoned for industrial or commercial purposes, the proposed development seeks to take over 250 acres of open countryside for an industrial purpose. There has been no strategic consideration regarding the suitability of the location for the proposed development, it has simply sought to cram as many solar panels into one landowners property which is in close proximity to the Kells Electricity Substation to save money on grid connection fees should approval be forthcoming to maximise profits for the applicant. The availability of adequate infrastructure has not been evidenced or considered, as even basic considerations such as the capacity of the electricity substation, as it does not have the capacity to absorb the electricity produced by the proposed development as evidenced by publicly available figures from NIE. The proposed development does not consider the environmental impact and many inconsistencies and gaps have found within the environmental statement provided on behalf of the applicant, which we find to be of very poor quality and grossly biased in favour of the development. We urge the Department to refuse the proposed development on the basis of the incomplete environmental statement and should the applicant wish to reapply or for other similar developments we urge the Department to undertake independent Environmental Statements, which would not show any bias.

In referring to the open countryside the Issues Paper states:

- 6.9.2 The Plan will recognise the importance of promoting a vibrant rural economy whilst retaining the intrinsic character and diversity of the rural area. How the rural issues are addressed is of major importance to the Plan.

- 6.9.5 Tourism also makes an important contribution to the local rural economy and it has the potential for future growth. It can also be of particular significance in the diversification of the rural economy.

The proposed development will not integrate into the area and despite claims by the applicant to 'soften' the impact, the reality is that over 200,000 solar panels in over 250 acres including high security fencing and CCTV cannot be incorporated into the undulating landscape and will decimate the rural character of the area. This will impact on the rural economy as it affects local businesses and tourism which rely on rural character and access to the countryside to survive, the proposed development will even be visible from one of Northern Ireland's key tourist locations at Slemish Mountain.

Planning Policy Statement 1: General Principles (PPS 1)

Point 6 of PPS 1 States, "The Department is committed to discharging its priorities in an honest, impartial and open manner" (Pg. 5). We would encourage the Department to undertake an impartial and independent evaluation of some of the key aspects of this proposal. Namely these are claims of economic and social benefits made by the applicant and an Environmental Statement carried out on behalf of the applicant. Based on our research in respect of the poor efficiency of solar photovoltaic panels in the proposed location, the ineffectiveness of incorporation of energy produced entering the grid, the visual impact and the environmental impact we found the claims made through the proposal to be grossly biased in favour of the applicant.

Owing to biased information supplied to the Department by or on behalf of the applicant, the Department must seek or undertake an impartial and independent evaluation of some of the key aspects of this proposal. Namely these are claims of economic and social benefit made by the applicant and an Environmental impact Assessment carried out on behalf of the applicant. Elgin's claims over 500 jobs being created are a myth. Most of these relate to the four-month construction phase and include jobs like yours, in the Planning Service. Were you brought in specially to deal with this application? If not then it is not job creation. In one of their applications in England, Elgin stated that post-construction there would be 'one man in a van every quarter for maintenance'. So even allowing for the larger development, there will be no more the equivalent of a man in a van every week maintaining these panels. No doubt there are jobs in constructing panels and shipping them around the world, however there is no information supplied in relation to the type of panel or where they will be constructed. As for job for unemployed people in Kells or the surrounding area, there will be little or no work post construction and no job creation.

We also are aware that the applicant received advice from the Department through a 'Pre Application' resulting in a significantly revision to the boundary for the proposed development. The information in relation to the 'Pre Application' was only made available under a Freedom of Information request as the Department refused to release this information through any other avenue even though in the same time period Elgin were making claims in respect of their proposals. Some residents have questioned the impartiality of the Department as advice was provided to the applicant by the Department yet advice in respect of the proposal or how to formulate an objection was not afforded to the public including affected residents, perhaps this practice could be reviewed to avoid any perceived ambiguity in future.

Point 42 (Pg. 16 & 17) refers to the need for a Countryside Assessment taking into account a range of considerations that may impact upon the countryside. Whilst an Environmental Statement has been carried out, this only relates to one of the 4 strands referred to in Point 42 of PPS1: for instance, there is no Landscape Analysis of Development Pressure completed on the effect of giving the remaining Grid capacity to one developer and stymieing future projects such as tidal on the North Coast (that will also have to get Grid connection at Kells) or incoming industry to Ballymena bringing real jobs to the area being unable to get Grid connection and having to move elsewhere. In addition KellsVOCAL consider the reference by the applicant in respect of creation of 569 full time jobs to be spurious and grossly overestimated. KellsVOCAL have requested a breakdown of these jobs as we believe these claims by Elgin to be grossly overestimated and there is a genuine concern that there will be no jobs post construction, we have been refused a response to this from Elgin but would call on the Department to investigate this fully before reaching any decisions in respect of this application.

Point 46 (Pg. 18) in respect of refusal of proposed development on the grounds of prematurity quotes "This may be appropriate in respect of development proposals which are individually so substantial, or whose cumulative effect would be so significant, that to grant permission would prejudice the outcome of the plan process by predetermining decisions about the scale, location or phasing of new development which ought properly to be taken in the development plan context". KellsVOCAL are of the opinion that the proposed development constitutes a large scale and significant step outside of the existing land use for the site by turning 250 acres open countryside into industrial land and as such should be consider in a strategic context and therefore refused on the grounds of prematurity. A decision to approve would prejudice the ability of the new RDS to achieve general conformity. This is evidenced by the lack of rigour in previous approvals issued by Planning for large scale solar which have failed to include a decommissioning clause in the approval notice. A decision to approve this application would prejudice the outcome of the plan by predetermining decisions that are currently being taken in preparation of the RDS. Such decisions would have an adverse impact on the landscape, in this case, which is an environmental asset protected under The Landscape Charter, an EU Charter that protects all landscape not just AONB and which has been signed by the Minister of the Environment. The Department must issue a refusal on grounds on prematurity.

Given that the scale and nature of the proposed development we urge the Department to defer any decision until an appropriate Countryside Impact Assessment is completed which outlays the wider impact within the countryside and not solely the potential Environmental Impact. Again we would suggest that this is conducted on behalf of the Department and not the developer as we have found the Environmental Impact Assessment to be grossly biased.

Development Control Advice Note 10: Environmental Impact Assessment (DCAN 10)

As already stated KellsVOCAL have found the Environmental Statement provided to the Department, commissioned by the applicant, to be incomplete and grossly biased in favour of the development receiving approval. As the Department is committed to impartiality as stated in PPS 1 we must ask the Department to undertake an impartial and independent Environmental Impact Assessment in respect of this development. Many residents have stated that they are not prepared to accept the Environmental Statement owing to a number of findings, which are clearly misguided at best. KellsVOCAL have provided the Department with information pointing to the gross inaccuracies and implore the Department to disregard the Environmental Statement provided in support of the proposed development and conducted their own research or seek and impartial Environmental Statement.

Planning Policy Statement 2 – Natural Heritage

PPS 2 states “The conservation of nature is of particular significance in Northern Ireland given its rich natural heritage of wildlife habitats, geological features and landforms, including some of international importance. There is also a considerable diversity of plant and animal species. It is important that this natural heritage be conserved for future generations.” (Point 12, page 2)

The proposed Kells Solar site sits close to The Antrim Hills Special Protection Area (SPA) 3.4km. Causing visual and environmental impact on this area. This SPA covers over 27,000 hectares of upland and was classified under the EU Birds Directive for its important populations of Hen Harrier and Merlin.

Two other designated areas lie within close proximity of the proposed site - Sandy Braes ASSI (1.75 kilometres) and Tardree Quarry ASSI (4.5 kilometres), which were both designated for their earth science interest and are of vital importance to the area. Current Guidelines state that any developments that are close to (or within) the boundary of a Special Protection Area may require a Habitat Regulations Assessment.

KellsVOCAL are alarmed by the quality of bird survey that was undertaken by the applicant and reported to the Planning Service on several occasions that the bird surveyor had been sleeping in his vehicle during surveying periods and that he had brought his dog which was running around the fields and chasing wildlife. The Environmental Statement suggests that there are no nesting sites of curlew within the application site however, the fields opposite No's 15 and 13 Whappstown Road are well known for the curlew nesting and breeding there, including this year. He has noted that 'Forty-nine of the eighty species recorded are considered to be of moderate to high conservation value' but then goes on to say that development can proceed so long as breeding seasons are avoided. With the wind farms in close proximity to the site, and allowing for an 800m mitigation zone around these, where exactly are the forty-nine species meant to go? The site is also rich foraging and breeding ground for badgers, Irish hare and otters. The cumulative effect of the wind farms already approved, with yet more wind farms pending decision, and now this 250-acre solar power station, the landscape as a place of breeding for wildlife will be obliterated.

Elgin's Environmental Statement states that twenty-two of the forty-nine birds of conservation concern were recorded as "probable" or "confirmed" breeding on site. This solar power station is seven times the size of the average solar farm so the effects will be up to seven times as severe and in an area which has a significant environmental and wildlife impact on the landscape and the effects will be extremely damaging. This is an unacceptable loss to the environment and is not outweighed by the gain this particular renewable application claims to bring. This is backed up by the NI Strategic Environmental Assessment (SEA) scoping project 2013 – 3.13.2 Ecology and Nature convention. "The focus of government conservation policy is on protecting and managing high value habitats. Intermediate value habitats, which contain much of the species diversity in the countryside and provide ecosystems service including food, materials, water, flood control and carbon storage are unprotected and thus vulnerable to land use change, disturbance."

Elgin says that this land is of little agricultural value therefore it is good for a solar power station. However, at the RSPB Solar Power briefing in 2011, the RSPB stated "it is likely that the least productive land for agricultural use (grades 3 and 4) will be targeted for development, raising concerns as these grades are often venerable (or potentially venerable) in nature conservation terms." So the very fields that are targeted by Elgin, the same fields are the richest fields in terms of habitat for our most endangered species. These fields of the application site must therefore be given priority protection by the Planning Service, which could be best achieved by refusing the proposed development.

The recently published by Mid and East Antrim Local Biodiversity Action plan states "The largest threat is the degradation and loss of habitats. This can be due to development, for example for industry, housing or infrastructure projects or activities such as commercial peat extraction, drainage and agricultural intensification" (Pg. 7). The proposed development would lead to the industrialisation of over 250-acres of open countryside, rich in a wide range of protected species including birds (Curlew and Hen Harrier), bats, badgers, otters, fish spawning sites and many other species. The Environmental statement provided by the applicant is biased and greatly underplays many of the species located in the area, the Department must undertake independent and impartial research to determine to actual impact the proposed development would have on wildlife and habitats.

Research has shown us that the area is rich in natural heritage, listed below:

- Landscape

The proposed Kells Solar site sits close to The Antrim Hills Special Protection Area (SPA) 3.4km, causing visual and environmental impact on this area. This SPA covers over 27,000 hectares of upland and was classified under the EU Birds Directive for its important populations of Hen Harrier and Merlin. Two other designated areas lie within close proximity of the proposed site - Sandy Braes ASSI (1.75 kilometres) and Tardree Quarry ASSI (4.5 kilometres), which were both designated for their earth science interest and are of vital importance to the area.

BRE National Solar Centre Biodiversity Guidance for Solar development state “This is important that developments avoid ecologically sensitive sites. Sites within or functionally linked to Special Protected Areas (SPA), for example, are very unlikely to be appropriate, depending on the designated feature(s). Other designated areas that are unlikely to be suitable include Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Natura 2000, Ramsar sites and other sites internationally recognised as having ecological importance such as Key Biodiversity Areas including Important Plant Areas (IPAs) and Important Bird Areas and Important Biodiversity Areas (both IBA). “

- Fish

The proposed development has raised concerns in respect of fish stocks particularly. The Upper Kells Water which flows through the proposed Kells solar site is a designated salmon river under the EU Freshwater Fish Directive (Braid and Main Local Management Area Information Leaflet). There is hydrological connectivity between the site and the Glenwhirry River via small streams and ditches which flow south to north off the hill. The Loon Burn, a tributary of the Six Mile Water River and also designated under the Directive, rises close to the proposed solar site. The Ross Burn and the four dams along its run, will take the run off from the site where it connects and crosses the Whappstown Road and this waterway is also a trout and salmon run. Due to site works involved in construction of Kells Solar Park this may cause increased sedimentation and turbidity, which may affect fish habitat (e.g. spawning areas, food sources, benthic composition). When solar panels are in place the effects from runoff of contaminated soil and/or surface runoff from heavy duty chemical cleaning (which the applicant admits has to occur to remove bird droppings) may impact fish habitat, riparian and water quality of downstream receiving waters. Potentially reducing numbers of Salmon and other species. (Sol-Luce Kingston Solar PV Energy Project Water addendum).

- Hedgerows

This priority habitats throughout the proposed solar farm site has species-rich hedgerows covered in an existing Habitat Action Plan, which reflects the general importance of this linear habitat. The RSPB make note in their solar power briefing – “Landscape features such as hedgerows and mature trees should not be removed to accommodate panels and/or avoid shading.” With the scale of this proposed site and the height of the panels (2.4m) shading will have a detrimental effect of our priority habitats and hedgerows

- Breeding Birds

Within the area of the proposed development and surrounding areas there are a large range of bird species all of which will see a decline in numbers and impacts on their habitats due to numerous factors involved with the proposed Kells Solar Park:

Risk of collision: with associated infrastructure including fencing and towers but particularly associated power lines. Some species of birds may collide with panels due to their attraction to shaded areas, particularly if they are located in previously undisturbed areas. **Disturbance:** Change in a bird's natural behaviour may lead to disorientation and increase energy use. Large arrays of panels may resemble water bodies attracting some bird species. One study indicated that insects were attracted to laying eggs on panels as they confused them with water, while the shading provided by panels can also attract birds. Disturbance during construction and maintenance may also be an issue. Other possible issues relate to increasing access to otherwise inaccessible areas;

Change of habitat function: the increase in shading and changing water regime within a solar power plant changes the micro-climate and may change vegetation patterns. This means potential indirect impact on breeding and resting birds by changing food sources (e.g. seeds, insects, plants and animals) and also nesting structures;

Barrier effect: If very large areas are being used and the cumulative impact have not been assessed which can indicate if there is a region or flyway scale impact on migratory soaring bird population, or if solar arrays occupying habitat at known resting sites forcing abandonment of an area, linkages within the landscape could be disrupted.

Bird species within the Whappstown Road and surrounding areas including but not excluded to the following: Rook , Meadow pipit , Willow warbler , Chaffinch , Skylark , Robin, Snipe, Wren , Jackdaw , Grasshopper warbler, Sedge warbler , Blackbird , Reed bunting , Goldcrest, Pheasant , House sparrow , House martin, Woodpigeon , Swallow , Coal tit , Blue tit , Song thrush , Great tit , Goldfinch , Lesser redpoll , Starling , Mistle thrush , Spotted flycatcher , Pied wagtail , Curlew , Mallard , Raven , Magpie , Hooded crow , Merlin , Collared dove , Buzzard , Sparrow hawk, Kestrel , Wheatear , Greylag goose , Herring gull , Lesser black-backed gull , Sand martin , Swift , Fieldfare , Linnets , Crossbill. Three of these were Priority species – skylark, grasshopper warbler and reed bunting. The merlin is a scarce breeding bird in Northern Ireland and across most of its European range. It is listed in Annex I of the EU Birds Directive as species which should be the subject of special conservation measures by Member States.

The introduction of the proposed development on a traditionally important breeding ground would have wide reaching and serious implications for the breeding numbers of Curlew in the area. There has already been a rapid decline in the population of breeding Curlew in Northern Ireland over the last 25 years. The most recent survey in 1999 suggested that breeding pairs have declined by 58% since 1988. The Curlew is listed in Schedule 2 of the Wildlife Order as a quarry species. In Northern Ireland the Curlew is a Priority Species for conservation because of the recent decline in its population and distribution. A Northern Ireland Species Action Plan for the curlew has been produced to ensure its future conservation in Northern Ireland. The Curlew is also included on the red list of Birds of Conservation Concern in Ireland and is listed as a "species that requires monitoring" in the Irish Red Data Book. The Curlew is also listed in Annex I of the EC Birds Directive on the conservation of wild birds and Appendix III of the Bern Convention.

The decline of curlew is linked to the loss of their wetland habitat and with 1,750 pairs in Northern Ireland and the proposed Kells Solar site would be built on such land, leading to further decline. <http://www.habitas.org.uk/priority/species.asp?item=32>

Loss of intertidal feeding habitats through development and disturbance of feeding and roosting areas are important potential threats causing loss or decline. http://www.doeni.gov.uk/niea/curlew_ni_sap_nov_09_2_.pdf

In 1987, a survey found that breeding snipe populations in Northern Ireland represented 10% of the overall UK populations and 14% of the Irish populations. However, when the populations were resurveyed in 1999, the numbers had declined by more than 30%. The loss of peatland habitat, drainage, afforestation and changes to grassland management are likely to have caused the decline. This refers to land along the Whappstown Road. The snipe is amber listed in Birds of Conservation Concern. Failure to maintain habitat the Snipes habitat within the Whappstown road area will cause further decline to the population. Glenwherry Hill project was launched by Minister Michelle Gildernew in 2011 with a 5 year strategy plan. This project was launched to develop and implementing environmental practices, it aims to protect a wide range of habitats including those for red grouse, hen harrier, merlin and snipe.

Flora

County Antrim Scarce, Rare & Extinct Vascular Plant Register and Checklist of Species 2006 has details of rare and scarce species within the proposed Kells Solar Park. Spices include:

- CarexaquatilisWahlenb. – RARE
- Listeracordata (L.) R. Br – SCARCE
- Melampyrumsylvaticum L – SCARCE
- Pyrola media Sw. – SCARCE
- Salix myrsinifoliaSalisb. – SCARCE
- Salix x subsericea– SCARCE

As stated in Wildlife and Natural Environment Act (Northern-Ireland) 2011 - Duty to conserve biodiversity 1.– (1) It is the duty of every public body, in exercising any functions, to further the conservation of biodiversity so far as is consistent with the proper exercise of those functions. In relation to any species of flora or fauna, restoring or enhancing a population of that species;

- Bats

The applicant has failed to include a bat survey within the environmental statement, yet at least four species of bats are common within the area of the proposed Kells solar farm site:

1. Common pipistrelle *Pipistrellus pipistrellus*
2. Soprano pipistrelle *Pipistrellus pygmaeus*
3. Leisler's bat *Nyctalus leisleri*
4. Myotis sp.

All bat species occurring in Ireland are listed in Annex IV of the EU Habitats Directive (92/43/EEC), which requires that they are strictly protected to ensure their conservation. The relevant articles of the Habitats Directive relating to species protection are transposed into Northern Ireland law by the Conservation (Natural Habitats etc.) Regulations (NI) 1995 (as amended). Under the Regulations (2009 amendment) it is an offence to damage or destroy a bat's breeding site or resting place. It is also an offence to deliberately disturb bats in such a way as to be likely to:

- affect the local distribution or abundance of the species,
- impair its ability to survive, breed or reproduce or
- impair its ability to hibernate or migrate.
-

The Soprano pipistrelle *Pipistrellus pygmaeus* is also listed as a Priority species by NIEA. There is great concern that the proposed development would cause a decline in bat numbers within the local area due to the detrimental effect solar PV has on bats. "There has been some concern that there may be collision fatalities due to bats mistaking solar panels for water. A paper by Greif and Siemers (2010) looked at recognition of water bodies by bats under laboratory conditions. The researchers concluded that bats have an innate ability to echolocate water by recognising the echo from smooth surfaces, and that bats may therefore perceive all smooth surfaces as water. Other impacts to bats within the local area include: Loss of commuting and foraging habitat; and, Injury through interaction with solar panels, either through occasional collision as a result of bats attempting to drink from the panels, or collision into panels when they are vertically aligned and bats attempt to fly through them (Bjorn Siemers and Stefan Grief (2010)). This is also mentioned in Natural England (2011) Guidance TIN101, which states that there is some evidence from a laboratory-based study that bats can collide with solar panels.

- Additional species

Squirrel (red & grey), badgers and otters have been spotted throughout the area of the Whappstown Road and research indicates negative impacts from the introduction of large scale solar PV sites.

This application is contrary to the aspirations of the Northern Ireland's Landscape Charter, which was signed by the Minister of the Environment and the Chief Executive of the NIEA in January 2014. This underscores the European Landscape Convention, signed by 37 countries, and places particular value on regional and local landscapes. The latter became legally binding in the UK on 1st March 2007. This Charter defines *'landscape'* as *'an area as perceived by people whose character is the result of the action and interaction of natural and/or human factors'* and *'it concerns landscapes that might be considered outstanding as well as everyday or degraded landscapes'*.

This proposal by Elgin does not in any way protect our landscape heritage, it seeks to ride roughshod over it and turn it into an industrialised wasteland for their own profit. The Department cannot ignore the huge negative impact the proposed development would have on the natural environment and therefore must refuse the application.

Planning Policy Statement 3 – Access, Movement and Parking

Many residents within the worst affected area have raised real concerns about the traffic issues that are very likely to be caused if the proposed development were to proceed, resulting in serious injury or loss of life. There are two main concerns the first is around the construction phase as the narrow roads which boarder the site are not built for large volumes of site traffic, particular concerns have been raised in respect of children walking to the school bus collection points at the end of the Whappstown Road and the Ross Lane, or cycling on the road which has no pavements.

The second major concern is that of distraction during the operation phase as the alien structure capture the attention of drivers on roads which have already suffer from some major road traffic collisions. The proposed development will be visible for 1.2 miles on its furthest point, owing the undulating landscape it would be visible from the minor country roads surrounding the site but also from major roads including the Larne Road and Doagh Road. The developer has offered to plant a few meters of native trees but that is not acceptable, as they are not augmenting existing mature trees and hedges. They will take years to establish without protection from existing mature landscape on this exposed Tardree Uplands Pastures LCA.

PPS3 States "The planning system has an important role to play in promoting road safety and ensuring the efficient use of the public road network. New development will often affect the public road network surrounding it, and it is part of the function of planning control to seek to avoid or mitigate adverse impacts. In assessing development proposals the Department will therefore seek to ensure that access arrangements for development proposals are safe and will not unduly interfere with the movement of traffic." (Pg20 & 21). This will be the largest solar development on Northern Ireland and we urge the Department to undertake a full and impartial transport assessment (as referred to in PPS3, page 30) and analysis of the potential for 'adverse impacts' associated with the proposed development a if there is even a slight chance of loss of life then the Department must mitigate through refusal of the proposal.

The unwillingness on the part of the applicants to consult with residents in respect of these and other genuine concerns, coupled with the grossly biased nature and inaccurate comments within the Environmental Statement, in respect of the machinery required during construction phase for example, has only worsened the concerns of residents.

The Department must refuse the application on the basis of potential to impact on life through the associated site traffic and distraction it would cause to other road users.

Planning Policy Statement 6: Planning, Archaeology and The Built Heritage (PPS 6)

Whilst the site footprint does not appear to technically contain any sites relevant to PPS 6 the boundary of the site unsympathetically surrounds a well-known Rath in the local area with the boundary fence only a few meters from the edge of the Rath. The boundary of the proposed development in close proximity to the Rath is unsympathetic and will severely damage the setting and visual appearance of the Rath (ANT 38:35). There is also a site of archaeological importance, which has been similarly unsympathetically treated (ANT 38:46) and with the close proximity to the site there is no knowing what remains of importance could be lost forever. Rath generally have an associated network of Souterrains and any construction work (such as the driving of steel support piles into the ground) close to the raths will destroy these archaeological remains.

Policy BH 2 (Pg. 15) states “Development proposals which would adversely affect archaeological sites or monuments which are of local or regional importance or their settings will only be permitted where the Department considers the importance of the proposed development or other material considerations outweigh the value of the remains in question”.

KellsVOCAL believes that given the permanent loss of potentially significant artefacts and unsympathetic nature of the site boundary will impact on the site of local importance. The Department must therefore refuse the proposed development on the basis of potential damage to historical remains and the impact on the Rath.

Planning Policy Statement 15 – Planning and Flood Risk

One of the main objectives of PPS 15, listed on page 15 is “ensure that the most up to date information on flood risk is taken into account when determining planning applications...” The Environmental statement in support of the application is grossly biased in favour of development stating that the introduction of 200,000 solar panels on 250 acres of open countryside would not increase the speed at which rainwater enters the watercourses in the area. The Environmental Statement also uses maps, which show very little detail of any use, therefore we implore the Department to undertake an independent review of the potential impact that the proposed development would have on a wetland area prone to flooding already.

Another of the main objectives of PPS 15 listed on page 15 is “promote an integrated and sustainable approach, both locally and at catchment scale, to the management of development and flood risk which contributes to:

- the safety and wellbeing of everyone
- the prudent and efficient use of economic, resources
- the conservation and enhancement of the natural environment and biodiversity
- the conservation of archaeology and the built heritage”

The Department must undertake an independent review of the impact the flooding will have upon people, business and the economy as a result of an increased flooding risk owing to the proposed development in an area which is known to suffer from flooding regularly. The applicant also fails to indicate what the panels will be made of or the impacts upon the natural environment should any of the hazardous chemicals contained within leech into the watercourses. The Department must seek to refuse this application as the risk to the natural environment coupled with the human and economic cost of increased flooding is simply outweighed by any gains from the proposed development.

Planning Policy Statement 16 - Tourism

Tourism can play an important role in the regional economy but locally also provides economic, social and health benefits. By restricting access to over 250 acres of open countryside will impact on those people who currently use the area for leisure purposes such as ramblers, shooters, anglers and horse trekkers. The proposed development would be visible for miles around and would even be visible from one of the major natural tourism attractions in the area, Slemish Mountain. The proposed development would decimate the rural character of the area and devastate tourism in the area; the Department must therefore refuse the proposed application on this basis.

PPS 16 states, “The safeguarding of tourism assets from unnecessary, inappropriate or excessive development is a vital element in securing a viable and sustainable tourism industry. To allow such development could damage the intrinsic character and quality of the asset and diminish its effectiveness in attracting tourists.”(Pg. 32). KellsVOCAL are deeply concerned that the current planning policy in Northern Ireland is not fit for purpose in respect of large scale solar application such as the proposed development. We are also concerned that Northern Ireland is becoming a target for energy companies applying for large ground mounted solar installations as a result and that approval in this case would set a dangerous precedent with regional implications. If 250 acres of green, undulating open countryside rich in natural heritage can simply be wiped away and industrialised for the sake of opportunistic energy production without any strategic consideration then the implications for Northern Ireland regionally are gravely concerning.

Tourism NI Describe Moorfields (which is less than one mile from parts of the proposed site, is visible from the development and has views over the development) as “This hamlet is situated close to the Larne Road in the southeast corner of the Borough, 10 miles from Ballymena Town in close proximity to the narrowing and beautiful valley of the Glenwhirry River, a valley that forms the borough boundary for many miles”. The areas covered by this proposal are Tardree and Six Mile Water area and Tardree Upland Pastures. (The N Ireland Land Character Assessment reports 1999) The section on Tardree Upland Pasture landscape states, “This is a transitional landscape, with characteristics of both upland moorland and lowland farmland; the pronounced open valley of the Glenwhirry River is an important local landscape feature. The north-eastern fringe of this LCA overlaps the Antrim Coast and Glens AONB, thus it is recognised on the official NI visitor website and in the DOENI Landscape Character Assessments that this area is situated in the beautiful Glenwhirry River Valley.

The proposed development is approximately the size of 20 Junction Ones, a form of development we do not wish to see spreading unchecked, like a rash, over the Northern Ireland Landscape. Northern Ireland is famous worldwide for its landscape. Visitors to N Ireland are entranced by the beauty and diversity of our country. The Landscape Character Assessment Reports identify 130 distinct landscape areas, each with its unique landscape, geology and biodiversity.

Our landscape is a national asset of untold economic, geological, biodiversity and cultural value, appreciated not only by the people who live here, but also by the 1.98 million people from outside NI who visited in 2012. The Department must either review current policy or refuse the application or the result could very well see Northern Ireland covered in solar panels with obvious implications on tourism and the economy.

KellsVOCAL also hold particular concerns that the proposed development will set a precedent, with enormous ramifications regionally as any similar development may include similar associated negative environmental, economic and social implications. We would encourage the Department to undertake an evaluation or research with a range of Government departments to formulate a realistic view in respect of benefits of these schemes. Current practice where claims of benefits, Environmental Statements and evaluation of impacts are produced either by the applicant or a third party commissioned by the applicant is poor practice in our opinion, which casts aspersions, perceived or otherwise, over the ability of the Department remain impartial in reaching decision if large amounts of the information being presented is biased.

Policy RE 1 (A), relates to Public safety, Human Health or Residential Amenity. KellsVOCAL has consulted with a wide range of residents who have expressed real concern in respect of the danger of electrocution during the construction and operation of the proposed site. Particular concerns have been raised relating to children, young people, pets and other animals that may enter the site even with proposed security measures in situ (the proposal for a security fence includes a 150mm gap on the bottom). KellsVOCAL simply cannot understand how a security fence can complete its job with large gaps and holes, many residents in the area have grave concerns that these gaps will provide easy access for children and pets who may come to harm inside the compound of the proposed site.

There is also real concern amongst residents in respect of associated dangers during the construction phase, both in terms of the site itself and narrow country roads with increased heavy site traffic. Many users use these roads but particular concerns have been raised in respect of the safety of children who use the road to access school and horse riders who use the roads for leisure, including sometimes inexperienced riders from a nearby livery business. The disruption during the construction and disposal phases including increase noise, dust and disruption to the narrow roads will have a massive impact on public safety, residential amenity and also on business in the local area including nearby farms. Disruption during operation of the proposed development taking account of the oppressive nature of the development which effectively imprisons residents within their own property will negatively affect the mental health of residents and an increase in depression and other related disorders connected to the stress of disruption, restricted access to the countryside and reduction of land/property values and increased insurance premiums. There has also been some research into electromagnetic currents associated with solar panels linked to increased behavioural disorders such as ADHD, there is real concern that this will be heightened particularly by the scale of the development.

Many residents have raised concern regarding associated noise during the operation phase and KellsVOCAL have serious concerns regarding the assessment carried out on behalf of the applicant. KellsVOCAL believe that the cumulative effect of transformers, electrical invertors and other associated infrastructure in close proximity to residential property would exceed 35db of low frequency noise pollution travelling inside resident properties, causing a severe and constant nuisance for residents. Many rural dwellers and farmers in particular are connected to the land/outdoors and the constant buzz of low frequency noise or electrical equipment around the perimeter of the site will disrupt the tranquillity of the countryside and impact on residential amenity. Residents have also raised concern in respect of glint and glare from the panels or associated equipment and increased temperatures particularly during already warm summer months from panels and associated equipment. Whilst this causes a huge annoyance to residential amenity for those directly affected by the development, there is some concern that passing motorists, or aircraft overhead, could become distracted by glare which could result in the loss of life or serious injury.

Due to high value equipment and materials used during construction and operation there is a real concern that the proposed development would attract criminality not only to the site but also to residential properties and businesses in the area. Similarly resident have raised real concerns in relation to their security given the nature of the security measures including high fencing and CCTV, which will have severe impact upon residential amenity and privacy given the nature of the development which is adjacent to many residential properties.

Residents have raised particular concern in respect of the presence of CCTV and privacy during the construction phase, decommissioning and maintenance during operation, which may be in contradiction to their Article 8 Human Rights. Whilst we understand that CCTV is likely to be inward facing the site is so irregular the CCTV will undoubtedly extend beyond the site boundary and the perception of CCTV and being overlooked will have a detrimental impact upon residential amenity. There is also concern in respect of CCTV gaze being altered by wind or animals or overlooking across the site, over the perimeter fence and into neighbouring residential property or land.

Whilst this is only a proposal at this stage, many residents in the affected area are already voicing the negative health impacts resulting from the mere worry that this proposal will proceed. We would expect that if approved the negative impacts upon residential health would worsen as many residents have likened the proposal to living within a prison.

Policy RE 1 (B), relates to visual amenity and landscape character. The extensive proposed site will have a huge impact on the rural character and visual amenity. To put this into context, the development represents the equivalent of approving approximately 20 Junction One's in the open countryside, 1.2 miles long from end to end and the footprint of the proposed development would be approximately twice the size of the footprint of Kells and Connor combined.

KellsVOCAL believe that the proposed development would have adverse impact on the visual amenity and rural character, which would not be contained within the local area but have a negative impact for many miles. KellsVOCAL has compiled a response to the agent's Landscape and Visual Impact Assessment and would strongly encourage the Department to consider the visual impact when reaching a determination. We would also encourage the Department to further investigate the extent of the site assessment undertaken by the applicant as KellsVOCAL are of the opinion that the site was chosen through random opportunism as opposed to a strategic analysis of appropriate sites.

We believe that site was chosen due to its close proximity to the electrical substation to save on grid connection costs, with as many panels as possible crammed into the landowner's boundary with no strategic consideration given to appropriateness of the site. We would implore the Department to refuse this particular proposal or as a minimal mitigating measure, defer decision in respect of this and similar proposals until a strategic analysis is conducted of appropriate sites for developments of this scale and nature. It is somewhat concerning that this site was chosen when more appropriate sites are in close proximity such as The Ecos Centre, Nutts Corner, Belfast International Airport, Maghaberry Prison, Masserene Barracks, roof of Fairhill Shopping Centre, roof of Tower Centre, roof of Junction One, St Patrick's Barracks, John Crane site, Pennybridge Industrial Estate, Land formally known as Ballymena Construction Company on Queen Street/Toome Road, Land formally known as Cosby's on Douglas Terrace/Paradise Avenue or Toome Road site Tullygarley to the rear of Ballee Cemetery, which is also in close proximity to an electrical substation.

In England, where sequential testing is a requirement of planning, the largest solar developments are all located on disused airfields or adjacent to industrial parks: Faldingworth (50MW) former Faldingworth RAF airbase in Lincolnshire; Defford(50MW) solar PV installation at Defford Aerodrome in Worcestershire; Wymeswold(34MW) solar PV farm at Wymeswolds Airfield near Loughborough; Deeside (45.7MW) solar PV park located alongside Deeside Industrial Estate in Flintshire, Wales; Coltishall (49.9MW) solar park at Coltishall WW2 RAF Airbase in Norfolk; West Raynham (49.9MW) solar park West Raynham RAF airfield near in Norfolk.

The random nature of the proposed development will have a detrimental impact upon visual amenity as this requires additional fencing, which is not in keeping with the area which is adjacent to many residents properties and in some cases surround the property, severely impacting the visual amenity for many residents. The existing natural screening is poor as hedging is patchy and despite the claims relating to retention of the natural screening and in places improved screening there is real concern that this cannot be enforced and natural screening will be removed to improve site security or efficiency of solar panels if planning permission is approved. We urge the Department to consider what measures are in place to restrict the removal of natural screening or trees within the proposed area and how this is likely to be 'policed'. We urge the Department to consider the negative impact on the rural character that this large-scale solar power station will have.

It is also not clear from the proposal if serious consideration has been afforded to how connection will be made to the grid and we would suggest that this should be a consideration for the Department at this stage as the purpose of the proposed development is solely to supply electricity to the grid. We request that the Departments seeks this clarification from the applicants so that all works, and health and safety concerns surrounding these works, are addressed as part of this application. Residents have grave concerns that if approved a supplementary proposal will be submitted to erect large electricity pylons in the area, even if the proposal was to lay underground cabling then as a minimal measure, consideration should be given to access through neighbouring land owners properties. The negative impact on visual amenity and rural character will also have an impact on businesses in the local area. Particular concerns have been raised by a local livery and horse riding business that feel that the construction of the works will render their business inoperable for road trekking during the period of operation.

Additionally, this area is on the tourism corridor taking in Slemish Mountain and the Glenwherry valley. The industrialisation of over 250 acres of open countryside visible for miles around in a place visited by thousands of tourists per year is sure to have huge and lasting negative impact. It is not acceptable to mar the landscape as viewed from Slemish in this manner; we draw your attention to KellsVOCAL's response to the agent's Landscape and Visual Impact Assessment. The 'Best Practice Guidance to PPS 18' 6.2.10 states "The Department will encourage greater use of PV systems in new developments and the retrofitting or incorporation of such technology on existing buildings where appropriate". This in itself suggests that solar Photovoltaic panels are more suited to urban or industrial areas and that the Department would be more in favour of PV microgeneration, as governed in PPS18, as opposed to large scale ground mounted installations such as that proposed. KellsVOCAL strongly maintains that the location of this development in the open and undulating rural landscape is wholly inappropriate and not supported by PPS18. We would ask the Department to look closely at the visual impact assessment we have submitted and determine that on this issue alone there is sufficient reason for the Department to refuse this application.

Policy RE 1 (C), relates to biodiversity, nature conservation or built heritage interests. Concerns have been raised in respect of a historic Rath at Mann's Hill located in close proximity to the proposed development limit, which will be completely overshadowed should the proposal receive approval. This Rath is essential to the character and history of this locality and has obvious historical, archaeological and tourism merit because it attracts many amateur archaeology enthusiasts every year as well as local enthusiasts and historians. Historical remains are vital to the history of the place, they are a finite resource and if destroyed or damaged cannot be replaced and it is vital that those we have receive protection at the highest level. Given the obvious existence of the Rath and associated archaeological site we would have expected that the applicant would already have undertaken an archaeology survey and a report to ascertain the extent of the archaeology on the site where they intend to build. Since that has not been carried out, we request that this is completed now and considered alongside this application. We would request that NIEA has the opportunity to review this report and survey as part of this process. It is important that this necessary investigatory work is carried out prior to any decision being issued, rather than merely put it in as a condition, as any damage result from development of the site as proposed could permanently damage this historically significant site.

Serious concerns have been raised in respect of the impact developments such as this proposal would have on diverse natural heritage and biodiversity. The land within the proposed development is home to rare and protected of wildlife including curlew (Whappstown Road being named after the Scottish name for Curlew), the proposed development will have a detrimental impact upon populations of protected bird species through disruption to natural habitats and eco systems. There is also some research that suggested that large arrays of solar panels is confused as water by wildlife, attracting birds for example to dive into the panels resulting in birds being injured and panes being damaged. If panels become damaged then any harmful or carcinogenic chemicals contained within may leak into the water system. Other research points to the disruptive impact of large-scale solar installation upon the insect population as they appear to be attracted to the panels, this detrimental impact will have a serious knock on effect on eco systems and other species.

This is a wetland area and a spawning environment for many fish species and as such serious concerns have been raised in respect of the detrimental impact this development will have on fish stocks. The removal of 250 acres of natural ecosystem, trees and shrubbery is going to have a major impact on natural ecosystems, which will take many years to recover, if indeed it recovers at all, following the decommissioning of the panels on this proposed site. This is of course assuming that the operation of the site does not produce unexpected pollution from damaged panels or chemicals used in cleaning and maintenance of panels.

The applicant claims that farming could continue and sheep could graze on this land regardless of the solar panel installation. The solar panels will, by necessity, be aligned to absorb the sunlight that is available and therefore the grass will be starved of sunlight and growth simply cannot continue at the same level it currently does as agricultural land, therefore the quality of grass will be degraded. Additionally, sheep farmers in the area state that it will not be possible to sheep farm over 250 acres of irregular fields because the panels will obscure visibility.

Visibility is essential because a farmer needs to enter a field and be able to see at a glance if a sheep is ill, or fallen, or injured or about to lamb. He cannot do that with panels obscuring his view in undulating land. Furthermore, the land needs to be maintained with chemical spraying for weeds and trimming of hedges that provide shelter for the sheep in winter. None of this can be done because the solar panels will obstruct farm vehicles and lime and spray cannot be put into the solar panels. In summary, we do not believe that on this undulating farmland comprised on numerous small fields requiring yearly maintenance, that any sheep will be farmed on this land if the proposed development is imposed on the land.

Research conducted by KellsVOCAL indicates that the negative impact that the proposed development is likely to have within the natural environment would extend far beyond the lifetime of the proposed development. We reject the claim by the applicants that this development constitutes farm diversification on the basis that farming for years has worked alongside the natural environment and many modern farming practices are returning to natural solutions to resolve agricultural issues. We believe that this agricultural ground will be wholly given over to the solar power installation and we believe that no farming will continue on this land because in this particular undulating landscape of small fields surrounded by hedgerows, and given the de-graded grass quality caused by the oversharing of the panels, that farming will be both impractical and unproductive.

In summary, the proposed development is not only inefficient in terms of electricity production but has massive negative impact upon the natural environment and ecosystems in the proposed location. The proposed development highly increases the risk of serious pollution of the area and the impact on wildlife, flora, fauna and watercourses is another major concern raised by the vast majority of residents. The solar panels themselves are fragile and given the inclement weather experienced at the proposed site increase the likelihood of panels becoming damaged and leeching hazardous pollutants into the area. KellsVOCAL strongly urge the Department to consider the vast negative impact that this proposed development would have on biodiversity and natural resources within the area and that this should be more than enough reason for the Department to refuse the proposed development.

Policy RE 1 (D) refers to local natural resources, such as air quality or water quality. The area is a wetlands area with many connected watercourses and close to protected breeding sites, as such any negative effects from pollutants during leached into the natural environment during the construction, operation or decommissioning will be exasperated. Solar PV panels themselves contain a range of highly poisonous and damaging pollutants, which would have irreversible damage to the natural environment, eco systems and water quality. The panels themselves are incredibly fragile and we understand them to be very easily damaged, particularly towards the end of their useable life. The area suffers from inclement weather conditions, heavy snowfall and high winds making damage to the panels more likely and the consequences of leeching pollutants into the land and water courses could have wide-ranging impacts for years to come. The panels degrade over time meaning that towards the end of the 25-year proposed life span the panels will be more fragile and will be more likely to leech their pollutants.

As this proposed development claims to be producing large volumes of electricity there is the potential for electrocution through watercourses affecting fish stocks and water based eco-systems.

The issue of decommissioning is something that residents believe strongly cannot be overlooked by the Department and must be taken into consideration in respect of the impact of likely pollutants. We understand there to be no facility in the UK or Ireland for safe decommissioning of solar PV panels. This is therefore a venture into the unknown for the Department, the Council and the applicants who cannot claim to know anything about decommissioning because they haven't done any. As there will be over 200,000 panels on this site alone, we need to look carefully now at the disposal of PV panels given the concoction of hazardous material contained within them and disposal is likely to be very costly. KellsVOCAL have grave concerns that the applicant or associated energy company have not given adequate consideration to disposal of panels and we are seriously concerned that responsibility for disposal of the panels or any necessary remedial actions would pass to the taxpayer in the failure of a limited company who may declaring insolvency at the point of decommissioning. We therefore impress upon the Department the need to consider decommissioning and the requirement of a bond to financially secure decommissioning, as is the requirement in recent legislation other jurisdictions including Great Britain.

KellsVOCAL believe that the applicant has not given adequate consideration to the issue of flooding and the impact of that the proposed development would have on expediting flow of water into already saturated water courses. Residents have raised concerns in respect of the potential for flooding as the area due to the runoff from approximately 50% of the 250 acres. This is a wetland area where the ground is saturated most of the year, and not just in the winter months. The scale of the proposed development over a large 250-acre area will add hugely to the additional pressures the small watercourses have to deal with and which are already at full capacity, this seems to have been conveniently ignored by the applicant. We would ask the Department to undertake an independent flood risk analysis so that this can be properly assessed by the relevant authority. There are some real concerns that should the proposed development go ahead that the result will be additional flooding to low lying areas, residential properties and rural businesses.

Policy RE 1 (E), refers to public access to the countryside. As a result of the high level and extent of security fencing around the proposed 250 acre site, approximately 6 miles of security fencing will be required. Access to the countryside will severely affect the residents of this area, for most they will be affected for the rest of their lives. The applicants stated to residents that palisade fencing was required for security reasons as the panels are extremely attractive to organised crime gangs, thieves and vandals, additionally the proposed site is easily accessible from the surrounding roads. We note that the submitted proposals have been changed to timber and wire fencing (they call this deer fencing), presumably in an attempt to score points in respect of visual impact or integration. In introducing post and wire fencing into the proposed development has reduced the security of their installation to a degree that is not satisfactory. This is relevant, as insurers of these facilities require palisade fencing (or similar) for security reasons in areas that are not naturally protected by surrounding farmland. In explanation, had the proposal been for a facility in the middle of a large estate surrounded by many fields owned by the estate which itself has an estate wall around it, the solar installation would have had layers of passive security and therefore the facility itself could be secured by a simple deer fence which would keep cattle and deer out as these animals could damage the panels.

However, this site runs adjacent to public roads, including a main arterial route between Ballymena and Doagh. The proposal runs right up to these roads therefore making it highly vulnerable to thieves and vandals determined to break in and steal the highly valued panels or the cabling. A deer fence with wooden posts and wire fencing is wholly inappropriate. The solar industry advises that security is also paramount because vandals can break in and damage the cables and get electrocuted. If electrocution is a real danger to vandals then it is too for children who live in the area and play in these fields, if vandals break in, leaving an unsecure boundary, the risk is greatly increased. We therefore do not accept the applicant's proposal of deer fencing to secure their site and keep our children safe. Additionally, we also note that their fencing proposal proffers a six inch gap at the bottom to allow the free movement of mammals throughout the site boundary. This design will also allow the free movement of young children whose gardens will be a short distance from, or abutted by, the security fence and puts children in danger of electrocution. This is clearly unacceptable and highlights the fact that this solar power station, sited in the middle of a highly populated rural area, is quite simply in the wrong place.

The affected roads and fields are currently used by a wide range of people including ramblers, shooting clubs, horse riders, cyclists, horse trekkers, and young people who simply explore the countryside. The proposed development would stop this access completely, if approved the proposed area simply could not be referred to as countryside or rural as it cannot be farmed effectively, enjoyed through rural recreation or used as natural habitat by wildlife. We urge the Department to give consideration to tourism and businesses interests that rely on access to the countryside and will be extremely disadvantaged should this development receive approval. The inclusion of 2.4 m high security fencing, 3m high CCTV columns, associated sub-station and inverters are located in close proximity to residential property and adjacent to roadsides along the Whappstown Road and the Doagh Road (where it meets Ross Lane). As previously stated, this fence is required by industry standards to be a metal palisade security fence, not as the applicants have amended their application a post and wire 'deer fence'. The apparent desire to cram as many panels as possibly into the landowners property (presumably to maximise their profits) have led them to extend their proposal to the boundaries of public roads, with no provision for a passive security zone of two fields lengths from any public road. As a result of their profit driven decision to maximise the land available to them under lease, the visual impact of the installation is also maximised to the detriment of the landscape and the amenity of the countryside.

Whilst the security fencing has a maximum visual impact when viewed from proximate viewpoints such as roadside, the large arrays of solar panels have a visual impact that is felt from both proximate viewpoints and longer distance viewpoints. The solar panels will be approximately 3m high and are mounted on steel stands. Referring to KellsVOCAL's response to the agent's Landscape and Visual Impact Assessment, the panels will be visible for miles and not contained within the local area. This will have a massive negative visual effect on the character of the area from all these positions. The existing natural screening (hedgerows etc.) is scarce and intermittent, as such the solar arrays will not be screened from view either from proximate view points along the bounding roads or wider viewpoints and will be greatly exasperated during winter months. Additionally, KellsVOCAL have concerns about the visual effect of these panels being mounted on North facing slopes.

Normally these arrays are on South facing slopes, to maximise the sunlight available. However, all the land contained in this proposal is on North facing slopes, this is another example of ultimate failure to give the suitability of the site any careful consideration but simply because this is what was available to the applicant. This means that the panels will have to be mounted in such a way to counteract the natural slope of the ground and turn to face in the opposite direction. When seen in an array, therefore, the panels will have to slope against the natural grain of the ground. The visual effect will be as uncomfortable as stroking a cat's fur the wrong way. This is another example of how insensitive this proposal is to the landscape and how crudely it has been conceived.

In summary, this proposal, situated in 250 acres of open undulating landscape, will have a massive negative visual effect and a detrimental effect for all those using this countryside as an amenity for cycling, horse-riding and country sports because it will spoil the visual amenity of the countryside when seen from miles and from a variety of viewpoints. Furthermore, the residential properties of this area, around 60 households, will be directly affected because the solar installation is in close proximity and hundreds of households in the wider area suffering a loss of visual amenity for people travelling, walking cycling or horse riding along the country roads and enjoying tourist attractions such as Slemish Mountain.

Section 4.16 of the policy appears to be heavily weighted towards decommissioning of wind turbines however as stated earlier, in the case of the proposed development, decommissioning is extremely important and we would urge the Department to give serious consideration in this particular case. Unlike wind turbines, which can simply be recycled for scrap on decommissioning, solar photovoltaic panels have to be decommissioned extremely sensitively which can be incredibly expensive. KellsVOCAL have serious concerns that large arrays of solar panels such as the proposed development will, in decommissioning terms, be the new asbestos. Unlike asbestos however the panels have to be removed within a certain timescale to avoid leeching of hazardous material into the surrounding area as the panels decompose and degrade at around the 30-year stage.

Decommissioning is a material consideration for the Department as the proposal includes a suggestion of returning the site to its original state after a certain time period then serious and considered proposals must be included in the decision making process. KellsVOCAL have concerns in respect of the proposal to actually generate enough revenue to dispose of any panels at the end of their life and would call on the Department to give consideration to how secure any proposals for decommissioning from Limited Solar Company who could potentially become insolvent, ultimately passing significant costs of decommissioning 200,000 solar panels to the landowner or taxpayer.

Whilst our group has little interest in the internal workings of energy companies we are concerned that disposal is an issue, which is directly connected with the ability of these companies to generate profit to effectively dispose of the panels. KellsVOCAL asks the Department to carry out an impartial evaluation into the disposal of solar panels in order to give this issue serious and full consideration.

This is important as approval of a site of the proposed scale would set a regional precedent and we have genuine concerns that only a few decades the cost for disposal of potentially millions of solar panels in Northern Ireland would have serious impact on the regional economy. Solar panel disposal is a real and serious issue and as the applicant has not given any enforceable on serious consideration to decommissioning, such as inclusion of a decommissioning bond, we ask that the Department to refuse the application.

Further aspects specific to PPS 21:

As the proposed development is located within open countryside KellsVOCAL have identified a number of areas where the proposed development is contrary to guidance contained within PPS 21. If approved, this development would effectively leave an open door for widespread degradation of the open countryside through other similar development and further the industrialisation of rural Northern Ireland.

Point 1.4 of PSS 21 states “Developing a sustainable economy is also at the heart of the Programme for Government. Planning and other environmental policies must play their part in facilitating economic development but not at the expense of the Region’s rich natural assets and not at the expense of the natural and built environment.” (Pg. 4).

KellsVOCAL strongly contests that the proposed development should be refused due to the wide ranging negative impact on the natural and built environment but also strongly contest the claims made by the applicant in respect of the economic ‘benefits’. Before reaching a determination in respect of this proposal and in the interest of impartiality and fairness we believe that the Department must undertake an impartial and independent evaluation of the ‘benefits’ claimed by the applicant or agents commissioned by the applicant, as we believe these to be grossly overestimated.

We also request that the Department researches previous proposals and claims from similar energy companies in respect of job creation, electricity generation and other benefits and investigate if these claims ever came to fruition. We would encourage the Department to include other Government departments and relevant organisation as part of a holistic evaluation in respect of benefits of similar schemes rather than simply accepting claims made on behalf of the applicant.

KellsVOCAL refute the claims for this particular proposal and that if this proposal received approval that the net economic gain would be negative due to a range of factors. The proposed development is not viable without being heavily subsidised through the public purse, decrease in rateable values of properties and land in the surrounding area, energy production capacity has been grossly overestimated, decommissioning is not considered and without a decommissioning bond there is a very plausible risk of the very expensive task of decommissioning over 200,000 solar panels would fall to the public purse as limited companies enter insolvency. We also refute the claims by the applicant in respect of the positive impact in respect of energy supply and urge the Department to conduct independent research into the claims to establish an independent evaluation as this is a material consideration of the proposed development and we believe that the Department must not make decision based upon biased information supplied on behalf of the applicant.

Point 2.5 of PPS 21 states *“The new Sustainable Development Strategy to be published later this year, seeks to move beyond managing adverse impacts to a strategic approach to future development of our society that will capitalise on opportunities to improve the economic and social wellbeing of our people while respecting environmental limits and protecting and enhancing our environment and natural resources.”* (Pg. 5).

KellsVOCAL believe it is necessary that the Department, in the interests of impartiality and fairness, defer any decision in respect of this proposal until an independent evaluation is conducted regarding the ‘benefits’ claimed by the applicant as we believe these to be grossly overestimated. KellsVOCAL believes that the proposed development would have negative impact environmentally, economically and socially - see previous points.

Number one of the two aims of PPS21 is *“to manage development in the countryside in a manner which strikes a balance between the need to protect the countryside from unnecessary or inappropriate development, while supporting rural communities”* (Pg. 7). The proposed development is not in keeping with the rural character of the area; it is inappropriate in its scale, nature and location, which are supported by the lack of any strategic thinking or sequential testing to determine the appropriateness of the location.

There is no sequential testing in Northern Ireland, similar to that which is in place in legislation in England and Wales to ensure that the most appropriate location is chosen for large scale solar developments. This means Northern Ireland is exposed in that there is no strategic consideration given to appropriateness and no preference for brown field sites over open countryside; no preference for adjacency to industrial over proximity to housing.

Without the benefit of a purpose-written policy, which might take into account the lessons learned from the mainland UK, we have concerns that energy companies could exploit the current legislation (or lack thereof), together with NI's renewable energy production incentives, in a random and opportunistic way purely for financial gain. Our research would point to sites being chosen by solar companies which are close to sub stations, this is the case in this application, the site was chosen close to the Kells substation and as many panels as possible crammed into the farmers land.

The Department will be aware of this practice based on previous applications and surely must agree that this is purely opportunistic and does not take into account any consideration of the appropriateness of the site either on a regional or local level, despite any claims made by the developer. It is somewhat concerning that this site was chosen when more appropriate sites are in close proximity such as The Ecos Centre, Nutts Corner, Belfast International Airport, Maghaberry Prison, Masserene Barracks, roof of Fairhill Shopping Centre, roof of Tower Centre, roof of Junction One, St Patrick's Barracks, John Crane site, Pennybridge Industrial Estate, Land formally known as Ballymena Construction Company on Queen Street/Toome Road, Land formally known as Cosby's on Douglas Terrace/Paradise Avenue or Toome Road site Tullygarley to the rear of Ballee Cemetery, which is also in close proximity to an electrical substation.

In England, where sequential testing is a requirement of planning, the largest solar developments are all located on disused airfields or adjacent to industrial parks: Faldingworth (50MW) former Faldingworth RAF airbase in Lincolnshire; Defford(50MW) solar PV installation at Defford Aerodrome in Worcestershire; Wymeswold(34MW) solar PV farm at Wymeswolds Airfield near Loughborough; Deeside (45.7MW) solar PV park located alongside Deeside Industrial Estate in Flintshire, Wales; Coltishall (49.9MW) solar park at Coltishall WW2 RAF Airbase in Norfolk; West Raynham (49.9MW) solar park West Raynham RAF airfield near in Norfolk.

The proposed development is unnecessary as mandatory EU renewable energy targets in respect of 20% renewable energy production have already been met. The rural community strongly object to the proposed development and in coming to their determination we would urge the Department to listen carefully to their concerns and support the rural community in respect of industrialisation of the countryside of this proposal and across Northern Ireland in respect of future similar proposals by rejecting the proposed development.

Objectives Number one of the four listed objectives of PPS 21 is *“to conserve the landscape and natural resources of the rural area and to protect it from excessive, inappropriate or obtrusive development and from actual or potential effects of pollution”* (Pg. 7). The proposed development is clearly excessive based on the scale with over 250 acres, inappropriate as it is out of keeping with the rural character of the area and obtrusive based on the extensive visual impact. The area is a wetlands area with many connected water courses, as such any negative effects from pollutants leached, from damaged or aging solar panels, into the natural environment during the construction, operation or decommissioning will be exacerbated.

The solar PV panels themselves contain a range of highly poisonous and damaging pollutants, which would have irreversible damage to the natural environment, eco systems and water quality. Our understanding is that the panels are incredibly fragile and could be damaged easily and damage is likely and increasing the potential for leech of contaminants as the area suffers from inclement weather conditions, heavy snowfall and high winds. The panels themselves also degrade over time meaning that towards the end of the 25-year proposed life span the panels will be more fragile and will be more likely to leech their pollutants.

The issue of decommissioning is something that residents believe strongly cannot be overlooked by the Department and as stated earlier in this objection, we would have concerns in respect of the ability of a limited company to guarantee disposal, which runs the risk of high decommissioning cost passing to the public purse. As the area is a wetland area, which already suffers from localised flooding on a regular basis, residents have raised concerns that the panels and associated development over a large 250-acre area will add additional pressure to watercourses already at capacity.

The applicant has claimed in the Environmental statement that there will be no adverse effects or increased flooding as a result of introduction of solar panels, this is a nonsense as the applicant is claiming that introduction of over 200,000 panels over 250 acres will not increase the rate at which rainfall enters the water courses.

There are some real concerns that should the proposed development go ahead that the result will be additional flooding to low-lying areas and residential properties.

Another of the four objectives of PPS 21 is *“to facilitate development necessary to achieve a sustainable rural economy, including appropriate farm diversification and other economic activity”* (Pg. 7). The proposed development does not contribute to a sustainable rural economy, it may financially benefit a single landowner and is a non-rural based energy company with offices outside of Northern Ireland but the net regional economic effect is negative. KellsVOCAL firmly believes that there will be no job creation locally as a result of this development and therefore no benefit to the rural economy.

The impact on the local rural economy will be negative if approval is granted as land values decrease, as public subsidies are used to make the proposal economically viable and the genuine risk that decommissioning will be paid from the public purse in the absence of a decommissioning bond. KellsVOCAL support appropriate farm diversification and welcome strategic legislation to promote financial investment in rural communities, this proposal does not however constitute farm diversification and is at odds with legislation including CTY 11, which outlines acceptable farm diversification projects. It is not our remit to govern what is acceptable, however a renewable energy farm diversification scheme should complement the natural environment not, as is the case with this proposal, lead to widespread disruption to the natural environment and a visual impact of a development with such a massive negative visual impact.

The proposed development is not in keeping with CTY1 which states *“Other types of development will only be permitted where there are overriding reasons why that development is essential and could not be located in a settlement, or is otherwise allocated for development in the development plan”* (Pg. 11). We believe that the proposed development would have wide ranging adverse impact on the environment and to the amenity of the rural area.

We would also encourage the Department to further investigate the extent of the site assessment undertaken by the applicant and as residents have raised concerns that the site was chosen through random opportunism as opposed to a strategic analysis of appropriate sites. If the Department would look at other similar applications they may find that site are being chosen because of close proximity to electrical sub-stations to reduce connection costs and solar panels are crammed into landowner's property as opposed to any strategic consideration of appropriateness of sites.

The area has never been designated through the Area Plan, or otherwise, as suitable for industrial development or energy production and the nature of the proposed development does not constitute farm diversification given the scale, nature and impact of the proposal. We would implore the Department to refuse this particular proposal and defer decision in respect of similar proposals until a strategic analysis is conducted of appropriate sites for developments of this scale and nature. It is somewhat concerning that this site was chosen when more appropriate sites are in close proximity such as The Ecos Centre, Nutts Corner, Belfast International Airport, Maghaberry Prison, Masserene Barracks, roof of Fairhill Shopping Centre, roof of Tower Centre, roof of Junction One, St Patrick's Barracks, John Crane site, Pennybridge Industrial Estate, Land formally known as Ballymena Construction Company on Queen Street/Toome Road, Land formally known as Cosby's on Douglas Terrace/Paradise Avenue or Toome Road site Tullygarley to the rear of Ballee Cemetery, which is also in close proximity to an electrical substation.

In England, where sequential testing is a requirement of planning, the largest solar developments are all located on disused airfields or adjacent to industrial parks: Faldingworth (50MW) former Faldingworth RAF airbase in Lincolnshire; Defford(50MW) solar PV installation at Defford Aerodrome in Worcestershire; Wymeswold(34MW) solar PV farm at Wymeswolds Airfield near Loughborough; Deeside (45.7MW) solar PV park located alongside Deeside Industrial Estate in Flintshire, Wales; Coltishall (49.9MW) solar park at Coltishall WW2 RAF Airbase in Norfolk; West Raynham (49.9MW) solar park West Raynham RAF airfield near in Norfolk.

The proposed development does not constitute farm diversification and is completely at odds with three out of four of the Department's criteria for a Farm Diversification scheme. CTY 11 states that the following criteria will apply to a Farm Diversification scheme "... (b) in terms of character and scale it is appropriate to its location; (c) it will not have an adverse impact on natural or built heritage; (d) it will not result in detrimental impact on the amenity of nearby residential dwellings including potential problems arising from noise, smell and pollution." (Pg. 30). The proposal is at odds with the Department's legislation as follows:

- b) The proposed development is not in keeping with the rural character of the area, it is inappropriate in scale, nature and location. The proposed development is more suited to an industrial, urban or brownfield setting not within an area of open countryside. The proposed development will be visible for many miles as it is so out of context within a rural environment and can be seen from main roads and tourist locations such as Slemish.
- c) The proposed development is in close proximity to a historic Rath which is essential to the character of the area with obvious historical, archaeological and tourism merit. Some serious concerns have been raised in respect of the impact this development would have on diverse natural heritage and biodiversity including protected wildlife. We urge the Department to conduct a full and impartial evaluation of the potential environmental impact.

We would reject any claim that this development constitutes farm diversification on the basis that farming for years has worked alongside the natural environment and many modern farming practices are returning to natural solutions to resolve agricultural issues. The proposed development is not only inefficient in terms of electricity production but has massive negative impact upon the natural environment and ecosystems in the proposed location. A farm diversification renewable energy scheme should compliment the rural area, however the proposed development would be completely alien and would have an exponential disruption to the natural environment on a huge scale of over 250 acres.

- d) Residential amenity will be severely impacted by the proposed development. Residents have raised concerns in respect of disruption and possible public safety issues through the construction and disposal phases of the proposed development. Many rural dwellers and farmers in particular are connected to the land/outdoors and the constant buzz of low frequency noise or electrical equipment will disrupt the tranquillity of the countryside and impact on residential amenity.

Residents have also raised concern in respect of glare from the panels or associated equipment and increased temperatures particularly during already warm summer months from panels and associated equipment. We would ask the Department to seek clarification from the Applicant as to how this is overcome and include this specification in their application. Due to high value equipment and materials used during construction and operation there is a real concern that the proposed development would attract criminality not only to the site but also to residential properties and businesses in the area.

Similarly residents, in particular those with young children, have raised real concerns in relation to their security given the nature of the security measures including high fencing (with a 150mm crawl space) and CCTV, which will have severe impact upon residential amenity, child protection and privacy given the nature of the development which is adjacent to many residential properties. Residents have raised particular concern in respect of the presence of CCTV and privacy/child protection, during the construction phase, decommissioning and maintenance during operation.

Whilst we understand that CCTV is likely to be inward facing, the irregular shape of the site boundary means that the gaze of CCTV is sure to overlook the site and into neighbouring property, the perception of CCTV and of being overlooked will have a detrimental impact upon those residents whose gardens will be abutted by this solar power station. There is also concern in respect of CCTV gaze being altered by wind or animals or overlooking across the site, over the perimeter fence and into neighbouring residential property or land. Whilst this is only a proposal at this stage, many residents in the affected area are already voicing the negative health impacts resulting from the mere worry that this proposal will proceed. We would expect that if approved the negative impacts upon residential health would worsen as many residents have likened the proposal to living within a prison.

The area is a wetlands area with many connected watercourses and close to protected breeding sites, as such any negative effects from pollutants during leached into the natural environment during the construction, operation or decommissioning will be exasperated. Solar PV panels themselves contain a range of highly poisonous and damaging pollutants, which would have irreversible damage to the natural environment, eco systems and water quality. The panels themselves are fragile and we understand them to be very easily damaged, particularly towards the end of their useable life.

The area suffers from inclement weather conditions, heavy snowfall and high winds making damage to the panels more likely and the consequences of leeching pollutants into the land and water courses could have wide-ranging impacts for years to come. The panels degrade over time meaning that towards the end of the 25-year proposed life span the panels will be more fragile and will be more likely to leech their pollutants. As this proposed development claims to be producing large volumes of electricity there may be the potential for electrocution through watercourses affecting fish stocks and water based eco-systems.

The issue of decommissioning is something that residents believe strongly cannot be overlooked by the Department and must be taken into consideration in respect of the impact of likely pollutants. Our understanding is that disposal of PV panels has to be handled sensitively given the concoction of hazardous material contained within them, as such disposal is costly and we believe that there are not locations in the UK or Ireland where these panels can be disposed of legally. Given the nature of a limited energy company there is a danger that responsibility to dispose of the panels or any necessary remedial actions would pass to the landowner, taxpayer or another company should the company enter insolvency.

We implore the Department to consider this as part of any determination as the structure of the company and the potential to pass on the 'problem' of disposal is central consideration to ensure proper site maintenance and disposal.

Residents have also raised concerns in respect of the potential for flooding, as the area is a wetland area, which already suffers from localised flooding on a regular basis. The scale of the development over a large 250-acre area will add additional pressure to watercourses already at capacity. There are some real concerns that should the proposed development go ahead that the result will be additional flooding to low-lying areas and residential properties.

Point 5.47 of PPS 21 states *"This policy aims to promote forms of diversification that are sustainable in the countryside, including suitable tourism or agri-tourism schemes. It is important that the countryside is not spoilt by the unfettered development of urban uses. Diversification proposals, therefore, should be of a scale and nature appropriate for the location and be capable of satisfactory integration into the rural landscape. Applications for large-scale proposals more suitable to the urban area or existing urban-based enterprises seeking relocation will not be acceptable"* (Pg30). The proposed development makes no attempt to integrate with the character of the area, the vast scale and irregular nature of the proposal is wholly inappropriate as the impact will further erode the character of a rural area, which is unable to absorb further industrial type development. The proposed development is clearly only appropriate within an industrial/urban areas or brownfield sites and rather than working for diversification of the countryside will completely overtake the countryside in an unsustainable nature. The proposal will also decrease local and regional tourism to existing local businesses and areas of natural importance such as Slemish Mountain.

KellsVOCAL strongly argue that proposed development is not in keeping with the rural character (Policy CTY14) of the area and is inappropriate in scale, nature and location.

In fact it would constitute the longest ribbon development ever constructed in NI. The proposed development would be more suited to an urban or brownfield setting not within an area of open countryside.

This will be the largest development of its kind in Northern Ireland and will rank by solar industry standards as a Solar Power Station.

The proposed development will also be visible for many miles and can be seen from main roads and tourist locations such as Slemish, this has been highlighted within the KellsVOCAL's response to the agent's Landscape and Visual Impact Assessment.

Planning History

KellsVOCAL have obtained information from the Department, Mid and East Antrim Council and Antrim & Newtownabbey Borough Council in respect of ground mounted solar applications.

The information provided had not been compiled and therefore we are unsure if the Department is aware of the extent of the current or proposed extend of these types of applications and their implications.

There is however growing concern amongst the community, which has been noted by elected political representatives and we urge the Department not to ignore the concerns of the community.

We would ask the Department to review the planning history and any information in relation to expected applications as it is apparent that there are a raft of applications in the pipeline due to weak planning policy in respect of solar installations and no policy which adequately deals with large scale ground mounted solar applications.

Conclusion

Having reviewed the application for the proposed development, considered the concerns of residents, conducted research and considered the impact regionally, KellsVOCAL are of the view that the Department should defer decision in respect of this and similar applications until suitable planning legislation has been introduced. Should the Department continue and seek to find a determination then we insist that a Public Inquiry must be held given the regional significance and to consider the wide ranging implications in the absence of suitable legislative background upon which to base decisions.

KellsVOCAL has proven that the environmental, economic and social impacts of the proposed development are all negative despite biased claims by the applicant. Based on the Department's own policy we have provided a range of areas where the proposal contravenes the existing relevant legislation. This being the case the Department must refuse this particular application and consider the wider regional implications relating to the lack of planning legislation for this type of proposal.

On a strategic level we believe that this development could set a dangerous precedent outside of any strategic considerations given to the suitability of the location or scale and nature of development.

The Department also needs to consider the application in respect of wider issues of impartiality, public consultation through the Aarhus Convention and Human Rights implications.

We urge the department to consider the wider regional and global ramifications in respect of this proposed development. The claims of CO2 reduction and cheaper more reliable energy are a myth and we urge the Department to undertake impartial research and learning for examples in other areas such as Germany where a high proportion of Renewable led to increased energy prices and higher CO2 production.

We urge the Department to think strategically about this and similar types of development on issues such as the lack of capacity at the nearby Kells electricity substation and the way in which energy companies appear to be targeting landowners in close proximity to grid connection points. We also urge the Department to consider the financial makeup of the applicants for this and similar application as it is fundamental to the application itself if the proposal is to establish a solar power station for 25 years after which time the land will be returned to its original state.

Decommissioning will be expensive, it will have to be completed by specialist contractors and spent panels will probably need transported to another country for disposal. Without a decommissioning bond there is a genuine risk that the high cost of disposal will fall to the taxpayer if a limited company enters insolvency, as solar panels must be disposed of swiftly after the end of their life due to the hazardous materials they contain.

We are genuinely concerned that solar panels will be the asbestos of the future, however unlike asbestos, solar panels are not inert if left alone, so have to be disposed of and we believe that the taxpayer will have to pay a high cost for widespread disposal in future.

The only tenable position for the Department is to refuse this application and call for a public Inquiry.

Section 6 LANDSCAPE & VISUAL IMPACT

From NIEA website:

Key Characteristics of the LCA: Tardree Upland Pastures Landscape - two thirds of the application site falls into this LCA.

- *Extensive upland plateau of marginal pastures, rising to 353m at Big Collin.*
- *Poorly drained grassland has extensive, rushy wet flushes and encroaching heather.*
- *Field boundaries of well-maintained stone walls or simple, unobtrusive post and wire fencing.*
- *Straight roads and electricity pylons cross the landscape, cutting straight paths at an angle to the grain of the landscape.*
- *Scattered dwellings on lower ground, with some concentrated development in the Glenwhirry Valley.*
- *Small scale peat cutting.*

Landscape Description

The Tardree Upland Pastures are found on the broad, rounded summits of upper basalt to the south-west of the Larne Basalt Moorland. This is a transitional landscape, with characteristics of both upland moorland and lowland farmland; the pronounced open valley of the Glenwhirry River is an important local landscape feature. The area includes the southern fringes of the Antrim uplands on the northern slopes of the Six Mile Water Valley. The summits and south facing slopes of Tobernavene Hill, Donegore Hill and Drumdarragh Hill are prominent in views from the town of Antrim and the valley.

The topography of the area is undulating, rising to 353m at Big Collin. Sheep grazing dominates as the major land use within this highly textured landscape and the marginal rough pasture land is divided by stone walls. The landscape is relatively open, although the conifer plantation of Tardree Forest extends high onto the slopes of Tobernavene Hill. There are no distinct settlements, but built development is scattered across the countryside and small stone farm houses provide shelter within the exposed landscape. Settlement is concentrated in the Glenwhirry Valley where a more sheltered aspect provides a setting for infrastructure, including roads, pylons and a disused railway.

The windfarm on the slopes of Big Collin is a local landmark, visible for miles around and there are a number of quarries close to the foot of the hills which are prominent in some valley views.

Landscape Condition and Sensitivity to Change

The condition of the landscape varies; in some areas there are intact stone walls and well maintained fencing, but elsewhere it is degraded due to the presence of quarries, electricity pylons and prominent development. Relatively low grazing pressures ensure that a variety of habitat types are supported. The landscape is fairly sensitive to change due to its relatively elevated position and the long, open views from surrounding ridges. The summits are most sensitive to built development and it would be particularly conspicuous on the slopes of Big Collin, Donegore Hill and Drumdarragh Hill, which form a prominent ridgeline in the landscape. The south-facing slopes of these hills form part of the landscape setting to the town of Antrim and the field patterns are a distinctive component of views from the M2.

Principles for Landscape Management

- *Changes in grazing pressure may alter the texture and land-cover of the landscape; retention of correct stock densities and grazing pressure will ensure that the diverse texture of this marginal landscape is maintained.*
- *Coniferous forestry should be sensitively sited to ensure that it does not change the character of the landscape or block important views across the ridges.*
- *Re-instatement and maintenance of field boundaries will retain the robust landscape structure.*
- *Restoration and enhancement of old quarries will ensure they do not permanently scar the landscape and improve their nature conservation potential.*

Principles for Accommodating New Development

- *Restoration of traditional small stone cottages will maintain landscape condition and highlight these built landscape features which are of considerable heritage interest.*
- ***Roads which fit with topography**, winding around prominent landforms will enhance experience of the landscape and prevent erosion of the grain of the landscape.*
- *The small upland valleys and lower hill sides may create settings for new built development.*
- ***Development which is set back from the roadside and is concentrated in small areas will ensure that ribbon development does not dominate and that scattered housing does not erode the rural character of the landscape.***

Implications for Solar Power Station Development in this LCA

Two thirds of the site fall into this LCA. According to the above NIEA designation, this proposal is contrary to the Principles for Accommodating New Development in this NIEA LCA of Tardree Upland Pastures Landscape because:

- **it is not set back from the roadside,**
- **it sprawls over 160 acres of landscape,**

- it is a ribbon development of 1.2 miles in length,
- it will dominate the countryside because it is too large for the landscape to absorb it,
- and it will erode the rural character of the landscape because it will be very visible from too many places of public assembly - near or distant.

On this basis the proposal should be rejected.

From NIEA website:

Key Characteristics of the LCA: Tardree and Six Mile Water Slopes - one third of the application site falls into this LCA.

- *Undulating land on the lower slopes of the Six Mile Water valley.*
- *Mixed patterns of fields and woodlands of different scales, with woodland cover increasing to the east.*
- *Hummocky pastures with hillocks, rock outcrops and rough grazing.*
- *Leggy hedgerows and degraded field boundaries.*
- *Scattered farms and small holdings; many with outbuildings.*
- *Lines of hedgerow trees and some mixed woodland on lower slopes.*
- *Numerous small villages.*
- *Archaeological remains including raths, stone circles, standing stones and chambered graves.*

Landscape Description

The Tardree and Six Mile Water Slopes wrap around an area of high basalt moorland which includes the summits of Carn Hill, Big Collin, Wee Collin, Tardree Mountain and Douglas Top. The area lies between the high ground of the Tardree Upland Pastures and the Tardree and Six Mile Water Valleys. It is characterised by an area of relatively degraded undulating farmland with overgrown, leggy hedgerows and rushy pastures. The uneven topography results in an irregular field pattern. Hedgerow trees create a wooded appearance in some views, although in others their uneven and leggy forms give the impression of mismanagement and neglect. The steeper slopes, on the edge of the basalt moorland to the north, become progressively more wooded towards the east.

There are no major settlements in the area, but many small settlement clusters, farms and smallholdings are scattered across the lower valley slopes where they are sheltered by landform and well connected by a dense network of roads. Archaeological remains, such as Wileys Fort, raths and standing stones, indicate the long history of settlement on these accessible slopes. A network of lanes and minor roads criss-cross the landscape and permit some long and sweeping views into the valley of the Six Mile Water.

Landscape Condition and Sensitivity to Change

The landscape appears rather degraded due to the neglect of field boundaries and pasture, especially towards the valley bottom. The presence of a multitude of electricity pylons, especially around Hillhead where they converge at a power station, intrudes into the rural setting. The steeper slopes, on the fringes of the upland areas to the north, are particularly sensitive to change. Elsewhere, the landscape's sensitivity to change is increased by views from the surrounding uplands. There is some scope to accommodate a variety of development, provided it is associated with tree planting to provide an appropriate level of screening.

Principles for Landscape Management

- *The preservation of the numerous archaeological sites, and the provision of public access to them, would enhance these landscape features which are particularly characteristic of the area.*
- *Management of hedgerows and field boundaries would improve landscape condition and enhance visual amenity.*
- *Expansion of woodland (and commercial forestry) should be sensitively designed to ensure that the characteristic diverse pattern of fields and woodland on the steeper slopes is retained.*

Principles for Accommodating New Development

- *Scattered housing in the countryside may detract from its rural character; housing styles could be better unified by drawing on vernacular details.*
- *Larger scale development could be screened using woodland planting; this would provide opportunities to extend and improve the wooded network, linking new planting to existing hedgerows and shelterbelts.*
- *Farm outbuildings could be painted to make them features rather than eye sores within the landscape; a dark red colour creates an attractive contrast with the landscape and responds to the traditional colours found within the rural setting.*

Implications for Solar Power Station Development in this LCA

One third of the site falls into this LCA. According to the above NIEA designation, this proposal may be accommodated in some areas of this portion of the site (subject to sensitive and robust landscaping provision and of course subject to protection of residential amenity on a house by house basis.

Bearing in mind that this LVIA is purported to be "objective and professional" on behalf of the applicant, it is completely unacceptable that the application site, which is clearly and substantially in one designation, should be twisted to appear to be in another, less onerous, designation. This was done by the agent and the reason was to suit the application.

Conclusion:

This apparently objective and professional view draws as a result an utterly erroneous conclusion completely opposite to what would be concluded from the correct mapping of the NIEA's analysis. The analysis should be carried out again and this time split into two separate assessments:

- **Two thirds, Tardree Upland Pastures**
- **One third, Tardree and Six Mile Water Slopes**

There has to be real questions about the so called independent professional view in relation to the application as a whole.

Observation 3: Compounding the error in the LVIA assessment process, is the apparent substitution of LCA with a new characterisation called LCT which is purely the invention of the agent, and without any relationship to the NIEA LCA designations.

This would be like an architect not liking the restrictions placed on development within a Conservation Area and arguing to the Planning Service that the area should be re-characterised by the architect to a new set of rules devised by the architect to permit whatever type of development the architect chose. This would not be entertained and neither should RPS's LCT approach. These LCT designations by the agent carry no weight whatsoever and this section should be disregarded by the decision makers.

Conclusion:

Setting aside the similarity in names of LCA and LCT, which might be seen by some as a means to obfuscate the real issues, no value should be attributed to the prolonged discussion which follows in the LVIA which only serves to override and negate any assessment that should have been carried out by the agent using NIEA's LCA designations (see Observation 2)

Observation 4: The agent's LVIA states that "Using terrain-modelling techniques combined with the proposed development specifications a map is created identifying areas from where the proposal may theoretically be visible. A worst case scenario is taken in line with Landscape Institute guidelines."

This is not correct because:

- the photos were taken in June when the trees and hedges were in full leaf. A worst case scenario would be when there are no leaves on the trees, i.e. winter conditions.
- the LVIA fails to identify the critical viewpoints such as: where the development abuts the Speerstown Road; critical points along the Craigstown Road; the Ross Lane; views from the many residences affected by the proposed development.
- The before and after photographs are allegedly the result of digital renderings of the above 3D topographical model of the whole site - however, there is
 - no observer or location information/GPS provided,
 - no wire-line overlay of the topographical model to confirm the veracity of the visual study conclusions,
 - and the rendering of the physical solar panel installations lack any informative realism.

Conclusion:

The terrain model evidence should be submitted for the whole of the site, include winter conditions, technical viewpoint information and all critical viewpoints from surrounding roads and all residential properties with a recognisable realism of the proposed installations.

Observation 5. The LVIA states that the purpose of its material is to help assess the visual impact of the proposed development by giving an idea of what the proposal will look like. It follows that should the material fail to do this then the ES is inadequate and should be re-done.

The LVIA states that "It is important to note that judgments in this LVIA are impartial and based on professional experience and opinion informed by best practise guidance."

There is no evidence to support the view that the LVIA has been carried out with impartial professional experience or opinion. In fact there is evidence that the LVIA has been carried out contrary to best practice because:

- key critical viewpoints have been omitted giving a false and misleading impression of the visual impact of the development in the landscape - see below KellsVOCAL analysis.
- single shot photos have been used to give a narrow impression of the visual impact of the development on the landscape. More appropriate would have been panoramic photos which would convey the viewer experience of this expansive development across 1.2 miles of rising landscape - see below KellsVOCAL analysis.
- photos have been used when the trees are in full leaf summer conditions rather than bare winter conditions thereby giving a falsely favourable impression of the proposed development for what will be, at this altitude, the shortest time of the year - see below KellsVOCAL analysis.
- the name and qualifications of the specialist observer used has not been given.

Conclusion:

As the material in the LVIA fails to assess the visual impact of the proposed development by giving an idea of what the proposal will look like, the agent must be required to repeat this aspect of the LVIA and do so in winter conditions.

Observation 6. The ES states that "whilst other operations and infrastructure such as temporary construction compounds and access tracks, apparent only during the construction and initial operating period are considered to be short-term effects." In the application P1 form, the 'temporary development' box has been ticked No. The applicant states that the development may be on site for 30 or 40 years. It will be up to the Department to set a time limit on any approval, however, it is unreasonable to assume that the following could possibly have 'short term effects':

- vehicular road accesses throughout the site,
- a sub-station compound 30m square with a high security palisade fence around it,
- 30 container sized inverter stations
- and 250,000 solar panels and mounting frames

Conclusion:

All the development, including compounds and access roads should be deemed to have a long term effect and the LVIA should be resubmitted and an impartial and professional assessment made on that basis and include all the above items that are contained within the development proposal.

Observation 7. The LVIA states that *"The reversibility of effects is also variable. The effects on the landscape and visual resource that result from the presence of the solar arrays and new sections of access track are reversible as they will be removed on decommissioning. The effects that will occur during the construction period and decommissioning of the site, such as the use of heavy machinery, are also reversible."* The photos below show the devastation that heavy machinery can cause during the construction of a large scale solar development. The land in the Kells application is exceptionally boggy and wet. Heavy machinery needed for driving the mini-piles into this ground over the entire 250 acres will create the taupe of destruction you see below on this land in England. Heavy machinery on land like this will destroy the soil structure for decades - both during construction and then further on decommissioning. The land



will not therefore be productive in this area post construction or post decommissioning for decades.

Additionally, the lack of reversibility effects of construction should be quantified separately from the reversibility effects of 200,000 solar panels and frames which stand as permanent objects in the landscape for the next 30 or 40 years.

Conclusion:

These two aspects of reversibility must be given different weightings when objectively and professionally assessing their visual impacts.

Observation 8. The LVIA states that "*Views from residential property, Public rights of way and nationally designated countryside/ landscape features with public access and National Trails all have a **Low tolerance to change and should be treated with High Sensitivity***". Why then have proposals been made to add new fencing, new landscaping and bunds? The need for all this new landscaping, rather than augmentation of existing mature landscaping, is contrary to PPS21 and is indicative of a proposal that is incorrectly sited from the outset.

The LVIA states that "Complete or very substantial change in view dominant involving complete or very substantial obstruction of existing view or complete change in character and composition of baseline, e.g., through removal of key elements" has a large magnitude of visual impact. And "partial obstruction of existing view or partial change in character and composition of baseline" would be deemed to have a medium magnitude of visual impact.

The LVIA then states that: "*It is accepted that, due to the nature and scale of development, the proposal could potentially give rise to some significant visual and landscape effects. **Furthermore, a significant effect would not necessarily mean that the effect is unacceptable in planning terms.***" We request confirmation from the agent as to exactly which policy is the agent referring to?

I draw your attention to the Case Officer Guidance Notes released by the Minister in July 2015: Under Key Planning Issues, the No1 issues is: Visual Impact. "The impacts of solar arrays on the landscape will vary according to the size, number and location of the proposal and the type of landscape involved."

Conclusion:

Surely this proposal, being the largest solar power station in the UK, set in rising and undulating upland pastures, would be at the highest level of the Minister's visual impact scale. There is therefore no justification whatsoever to the agent's statement that a 'significant effect would not necessarily mean that the effect is unacceptable in planning term. 'In fact the application should be rejected simply because of this.

See KellsVOCAL's LVIA Assessment. (Pages 24 – 33)

Observation 9. The LVIA states that: "The impacts of solar arrays on the landscape will vary according to the size, number and location of the proposal and the type of landscape involved." However the most recently approved wind turbines have not been included. A reassessment is therefore required to include the cumulative effect of these proximate turbines and the possible effects of those currently being assessed under applications.

Conclusion:

Further Environmental Information (FEI) is necessary, this should be formally requested under Reg. 23 of The Planning (EIA) Regulations (NI) 2015 and the process under Reg. 20 with regard to advertising, notification of 3rd parties and consultations (as appropriate) should be repeated.

Observation 10. The LVIA states that: "Land to the west of the Whappstown road encompasses a series of gently undulating, improved and semi-improved pasture fields with coniferous shelterbelt plantation, mixed hedgerows, fen and lake with associated marginal planting."

Conclusion: There is not correct. The agent is trying to give the impression that the landscape has a large number of coniferous tree plantations which will shield the development from view all year round. The truth is that the vast majority of planting to the West of the Whappstown Road is broad leaf deciduous planting. This is important due to the visual impact the development will have on the landscape during winter conditions when the deciduous trees will have no leaf coverage and the development will be highly visible.

Observation 11. The LVIA states that: "Views of the site from the wider study area are generally limited by the combination of undulating topography, roadside hedgerows, field boundary hedgerows and mixed shelterbelt plantings."

However, critical views from, for instance, the Craigstown Road have been taken where they are not critical, whilst the critical positions along this road have been omitted. This practice gives a false and misleading impression of the visual impact of the development from longer views.

Additionally, critical short views are omitted. The critical viewpoint from a large stretch of the Speerstown Road has not been identified by the agent at all. In fact there no viewpoints have been identified at all along a hundred or more meters of road length where the development abuts the Speerstown Road and where there is no existing hedge to screen the development from view.

Regarding the western portion of the site, the site is entirely open for a hundred meter stretch of the Whappstown Road - again this has not been mentioned in the LVIA.

Conclusion: The LVIA does not consider these vital aspects of the visual impact on the landscape of this huge development. The Department should use their powers to seek further information under Reg. 23 of The Planning (EIA) Regulations (NI) 2015 and the process under Reg. 20 with regard to advertising, notification of 3rd parties and consultations (as appropriate) should be repeated.

Observation 12. The LVIA states that: "Wind energy developments at Wolf Bog and Elliott's Hill are visible from within the study area and create visual interest and movement within views."

It might be considered by some as such, from a Planning Legislation perspective they should be considered under cumulative impact.

Conclusion:

The wind farms at Wolf Bog and Elliott's Hill, together with those on the Whappstown Road just approved by Planning, and potentially those that are currently being assessed on the Whappstown Road, should be assessed as adding to the cumulative effect of renewables in a relatively small area of landscape. This assessment has therefore not been carried out in terms of cumulative effect and the Department should use their powers to seek further information under Reg. 23 of The Planning (EIA) Regulations (NI) 2015 and the process under Reg. 20 with regard to advertising, notification of 3rd parties and consultations (as appropriate) should be repeated.

Observation 13: Under *Rural Policy Areas*, the LVIA states that "The closest policy area to the proposed development site is the Tardree Policy Area ... approximately 2km to the south of the proposed development site." In fact the whole of the Tardree Policy Area lies within the 5km sensitivity zone of the site.

Conclusion:

The LVIA should be extended to include the impact from the whole of the Tardree Policy Area.

Observation 14: Under *Area of Outstanding Natural Beauty*, the LVIA states that "The Antrim Coast and Glens AONB, designated in 1988, is located approximately 5 km north-east of the proposed site (Refer Volume 2; Appendix 6.1; Figure 6.4)." In fact referring to the map and the 5KM zone, a southern portion of the AONB actually lies within the 5km zone of visual sensitivity.

Conclusion:

There has been no LVIA carried out on this area of AONB and therefore the ES is incomplete. The LVIA should therefore be set aside until this assessment has been carried out.

Observation 15: Under *Description of the Sources of Impact*, the LVIA states that "The extent to which the proposed development has the potential to appear intrusive and hence, detrimental to the landscape character is limited by several factors. The development form is low lying, with proposed elements predominantly less than 3m in height. There is a strong framework of hedgerows, hedgerows with trees and mixed species woodland within the immediate vicinity which provide visual containment."

This statement may be true for one third of the western land within the development site that lies within the Tardree and Six Mile water Slopes LCA, however, the rest of the development is highly visible for long stretches of the Whappstown Road, the Speerstown Road and the Craigstown Road that bisect and surround the development.

The LVIA identifies that the site rises 70m from SW to NE - it is therefore only low lying when viewed from the upper end and is in fact located completely on rising ground when viewed from the lower end. Of the western portion that lies within the Tardree and Six Mile water Slopes LCA, and which is low lying when viewed from the Whappstown Road, is on rising land when viewed from the Doagh Road and Ross Lane. There are therefore large swaths of the development that are highly visible even in the summer months but in winter the visibility of the development increases hugely. The fact that the majority of the development lies in the Tardree Upland Pastures Landscape which is characterised by the NIEA as being a sparse open landscape would further reinforce that the LVIA is misleading and inaccurate when it states that the development will enjoy a strong framework of hedgerows, trees and woodland.

This paragraph of the LVIA should be struck out.

The next para in the LVIA states that "Significant effects upon landscape character are expected to be restricted to the immediate vicinity of the site boundaries. Perceived changes in landscape character from elevated locations to the north of the proposed development site are likely to be viewed as a change in colour and texture, reflecting changes in field patterns found in adjacent areas. "Firstly it is a concern that, having identified that the development will have visual impact, the agent seems to be only concerned with roadside mitigation. The application suggests that any visibly of the development can be mitigated by imposing new hedges and trees, or bunts. These are concentrated mainly at roadside or in close proximity to the development. I draw your attention to PPS21 which states that:

*"While new tree planting for integration purposes will be considered together with existing landscape features, **new planting alone will not be sufficient. A building on an unacceptable site cannot be successfully integrated into the countryside by the use of landscaping. New planting will inevitably take a considerable length of time to mature and in the interim will not mitigate the impact of new development. Similarly a new building that relies on significant earth works, such as mounding or cut and fill for integration will be unacceptable.**"*

Conclusion: On the above basis, these impacts need to be completely reassessed using national LCA guidelines and Planning Policies which everyone else has to comply with.

Observation 16: Under *Predicted Impacts upon Landscape Character* this entire section is based on the agents' re-designation to a landscape characterisation of their own choosing and ignores the NIEA designations which have more onerous requirements for development.

Conclusion:

This entire section of the LVIA should be struck out.

Observation 17: Under *Undulating Agriculture*, again the agent applies their own LCT rather than the NIEA's LCA.

Using the NIEA's LCA designations, the following conclusions would have been made:

Conclusion:

Two thirds of the application site is located in the Tardree Uplands Pastures. According to NIEA, in this LCA **"development which is set back from the roadside and is concentrated in small areas will ensure that ribbon development does not dominate."** As this development is 1.2 mile long ribbon of development across what is largely open and undulating landscape, highly visible from roadsides along the Whappstown and Speerstown Roads that do not benefit from hedging or mature trees due to the windswept nature of this area, the predicted magnitude of impact is considered to be immense - even as far away as 2km from the site. Beyond this distance the change in character of the area will still be visible and will be significant. The proposed development will directly affect the majority of the LCA, because landscape features and the topography of the rising ground of the Tardree Uplands Pastures surrounding the site to the North and West all have open views down to the site. Within the development site boundary there is also the potential for a large magnitude of impact to be experienced during the operation of the proposed development.

There are predicted to be localised Major, assessed as very significant, effects upon the development site itself. The predicted significance of effect is considered to be generally Major for the majority of the Tardree Uplands Pastures LCA, which is considered to represent a very significant effect upon the landscape character of the LCA.

Observation 17: Under *Predicted Impacts upon Landscape Designations* the LVIA states that "The closest policy area to the proposed development site is the Tardree Policy Area (TPA), which at its closest point is approximately 2km to the south of the proposed development site." This means that in fact the whole of the TPA lies within the 5km zone of the site. We note that the photo analysis show no impact but the photos have not been taken from the critical viewpoints.

Conclusion:

We agree that the TPA is considered to have a high sensitivity to change. Our assessment concludes that the proposed solar power station will have a significant effect on the visual amenity of walkers and cyclists who use the TPA for recreation.

The predicted significance of effect is considered to be moderate to major, indirect but visually significant.

Observation 18: Under *Areas of Outstanding Natural Beauty* the LVIA states that "The Antrim Coast and Glens AONB, designated in 1988, is located approximately 5km north east of the proposed development and is considered to have a high sensitivity to change."

In fact the southern portion of the AONB falls into the 5km zone. The ES contains no photographic analysis of the view towards the site and the visual effect the new solar power station will have from this AONB.

Conclusion: This re-assessment should be is carried out by the agent. Furthermore, should the zone be increased due to the area being uplands rather than 5km zone for lowlands, this assessment should be expanded into the whole of The Antrim Coast and Glens AONB.

Observation 19: Under *Summary of Landscape Impact Assessment*, again the agent has chosen to disregard the NIEA's LCA designation and therefore this landscape Impact Assessment is completely erroneous.

Conclusion:

If it had been assessed under NIEA's LCAs it would have concluded the following:

Tardree Upland Pastures: Predicted Effect - direct and significant for two thirds of the application site.

Tardree and Six Mile water Slopes: Predicted Effect - moderate to major assessed as significant within site boundary and moderate to major in the wider context particularly in winter conditions for one third of the application site.

Urban Landscape: No change

Rural Policy Areas: moderate and significant, indirect effect on Tardree Policy Area within 5km (or greater if using upland categorisation.)

Areas of Outstanding Natural Beauty: photographic assessment to be requested from agent.

Historic Parks and Gardens: No Change

Ulster Way: No Change

Observation 20: Under *Visual Impact Assessment* the ES states that: “due to the screening provided by the broadleaved and coniferous shelterbelts, woodland copses and coniferous forestry found across the study area, ... limits views from those parts of the study area with theoretical visibility of the proposed development.”

There is only one significant group of coniferous trees and that lies to the East of the Whappstown Road up to the junction with the Speerstown Road. The majority of the trees on the site are typically deciduous - ash, oak and beech - and therefore they will provide at best a filtering effect of the development in winter conditions.

The main problem with the LVIA stems from the fact that the **photographs used for the LVIA were taken by a professional photographer in June 2014 when the trees were in full leaf, whilst the study was carried out by a different person three months earlier in March when there were no leaves on the trees.** Both study and photographs should have been carried out at the same time, and **winter photographs should have been part of the study** and analysis, particularly given the short growing period of this area.

Looking at the viewpoints selected by the agent, whilst the critical viewpoint from near 15 Whappstown Road has been identified, other critical viewpoints such as the where the development abuts the Speerstown Road, or where the development abuts the Ross Lane, have been omitted entirely. Other viewpoints use positions where the topography, or buildings, shield or break up a wide distant view of the development - such as those from the Craigstown Road. We have included below some photographs and a map indicating where these critical views should have been taken and the visual effect of the development from these critical viewpoints. It is clearly seen that this development will have a significant effect on the visual amenity of the area and the landscape quality of this LCA resulting in a change of character to a degree that is unacceptable.

Conclusion:

The agent should be required to produce a further study with augmented locations and in winter conditions and this should be done at the same time as new photographs are taken.

Observation 21: Under *Views from Class B roads* again there is no LVIA carried out using photos taken in winter conditions and therefore this should be requested by the Department before further comment can be made on this aspect.

Conclusion: Augment study with the above omitted information.

Observation 22: Under *Residential Impact Assessment* it is quite remarkable that in a LVIA of some 30 pages in length, that a mere 8 lines is given to the impact this scheme will have on around 60 residences and their dwellers who will be directly affected by this solar power station.

Planting new hedges and trees which is not augmenting mature landscaping, will take 5-6 years to establish. Given the lifetime of the development of 25 years, this is a disproportionate time for the development to go unscreened. This is an indication that the development simply doesn't belong in this undulating landscape that is highly populated.

Conclusion:

The visual impact assessment photographs should be taken from each of the residences in winter conditions to show the full impact of this proposal.

Observation 23 Under *Mitigation*:

It is clear from the above observations that we are looking at two completely different landscape character areas. The landscape mitigation should therefore relate directly to the particular character of each of these LCAs. The LVIA submitted takes a standard mono-landscape approach.

- The proposed approach to mitigation is clear - retain existing field boundaries and hedgerows and introduce new strip woodland, which may be appropriate for one third of the site under Tardree and Six Mile Water Slopes, However, it is entirely inappropriate for the two thirds of the Tardree Upland Pastures.
- Generally details of the landscape mitigation measures are very sparse and seem to be entirely concerned with low level perimeter screening. The LVIA in showing that there are issues about screening and reducing the mass and extent of development in more distant views should have led to these being properly addressed.
- Mitigation relies largely on new planting rather than augmentation of existing landscaping. This contrary to PPS21.
- It is not unreasonable for new planting to take 5 years to establish and this is a short time in relation to the life expectancy of the development of 25 years.

Conclusion

- **A site specific response is required to this landscape, taking account of the two distinct LCAs, and the mitigation measures, planting specifications should be reconsidered.**

Observation 23: Inadequate details of landscape works have been provided and described. Elgin say on their website that a Landscape management plan will be submitted as part of the planning application. We are not aware this internal procedure has been followed. In particular:

- The specifications for plant material are very general as are specifications for establishment and maintenance and are not specific to the two distinct LCAs.
- The use of EHS trees to give quick effect is questionable. It is generally accepted that younger nursery stock planted closer will achieve better growth rates and quickly surpass EHS as well as being more typical of this landscape.
- Arrangements for monitoring plant growth and establishment are not given. It is important to ensure that predicted performance standards are met. This information must be requested from the agent so that it can be assessed by the Department and the public.
- No plant mixes are given and only one coniferous species is mentioned. This is important in respect of screening and landscape character.

Conclusion

- **A site specific specification should be developed acknowledging the two distinct LCAs and a full landscape management plan submitted as part of the application.**

Observation 24: Management/maintenance of the site is poorly described.

The land is currently grazed by sheep and cattle and some areas are cut for silage to support these animals in winter. The remainder of the land around the lake is wetland and supports wading birds and other wildlife such as otters, wild duck, wild geese etc. The entirety of this farm has been given over to the applicant in a lease for a solar power station. So this is not a farm diversification scheme where farming will continue around the solar farm which might occupy 20 acres. There will be no land on this farm to support the rearing of cattle because cattle cannot roam amongst solar panels because they will cause damage to the panels. The agent suggests that sheep can graze below the panels but this is questionable in this case because the whole of the 250 acres has been given over to the solar lease. So the maintenance of the 250 acres becomes the responsibility of the solar developer and yet there is no information about how he intends to maintain the land in the ES. For instance, there is no mention how the strips of land between panels is to be managed.



We have researched Elgin's public information website for Solar Farms, and indeed their images used for public information nights and presentations to Councils, and they show photographs of sheep around the panels but the ground isn't grazed. Sheep cannot graze on long grass. This information is at best misleading to the public and to public representatives.

Should the grass get too long, sheep cannot graze it. Usually cattle are run on the ground first to eat the long grass down and then the sheep are grazed on it. This can't happen on a solar farm. So the grass will have to be cut manually and it will then have to be collected to avoid fire

hazard.

Cultivation is another way of maintaining land but this method is unlikely on solar farms due to the presence of underground cables.

We have repeatedly asked the applicant if they can facilitate us with a visit to one of their solar developments in England so that we can see how this company constructs and manages their solar developments. They have refused to give us this access yet we note that other solar companies in NI (Lightsource) have offered such visits to objectors. We are therefore most concerned that the landscape in the Kells area will not be maintained, will not support sheep rearing, will not support wildlife and will not increase biodiversity. It will simply be left to go to rack and ruin like in the image below.



Above:
Photo
of a
solar
farm in

England where there are no sheep grazing and the farmland has simply gone to ruin.

Conclusion

There is a danger that the lack of detail in the proposal will lead to neglect of the whole of this Solar Power Station estate which was once 250 acres of productive farmland.

Observation 25: Decommissioning

- We note that the application is not for a temporary development. We acknowledge that the Department can set a time limit for the development. The applicant suggests this might be 35-40 years but different figures are slotted in here and there throughout the documentation so it is unclear what is being proposed. This should be clarified by the applicant and the Department for the purposes of transparency and openness.
- Regardless of how long any approval might be considered to be for, decommissioning of such a large development is a huge issue. In this ES, decommissioning is barely described. It should be fully described at this stage to ensure that adequate safeguards are put in place.
- Their decommissioning proposals that have been scantily described are confined to the disposal of plant and machinery and no mention is made of landscape and soil restoration.

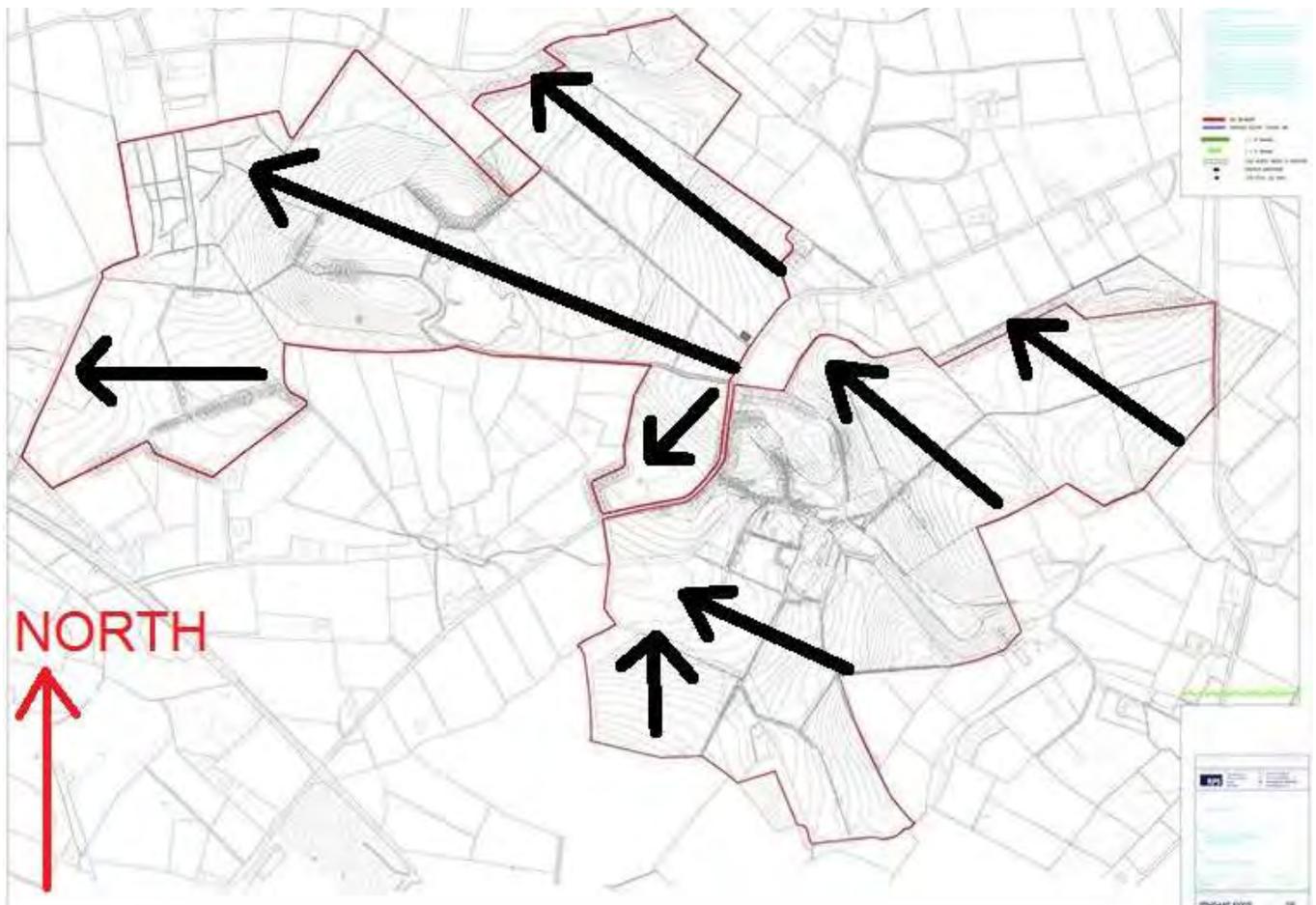
Conclusion

Over 250 acres with of the order of 250,000 panels on metal structures with no funded safe guards by way of a decommissioning bond for removal is utterly unacceptable.

LVIA by KellsVOCAL Carried out by Jane D Burnside Architects MRIA

Context:

In broad terms the land on which the development is proposed slopes down from Elliott's Hill in the East to the stub junction of Ross Lane and the Doagh Road in the West. So in broad terms **the slope of this lands faces North West**. Lands for solar PV facilities **should be either flat or with a South facing slope in order to maximise the panel's exposure to the sun**.



Above: Map of the application site (from Elgin Website 23-09-15) indicating contours of the landscape and the arrows identify the slope downwards of the land. This map identifies that the application site is fundamentally unsuitable for the development of large scale solar PV because the lands typically slope facing the Northwest.

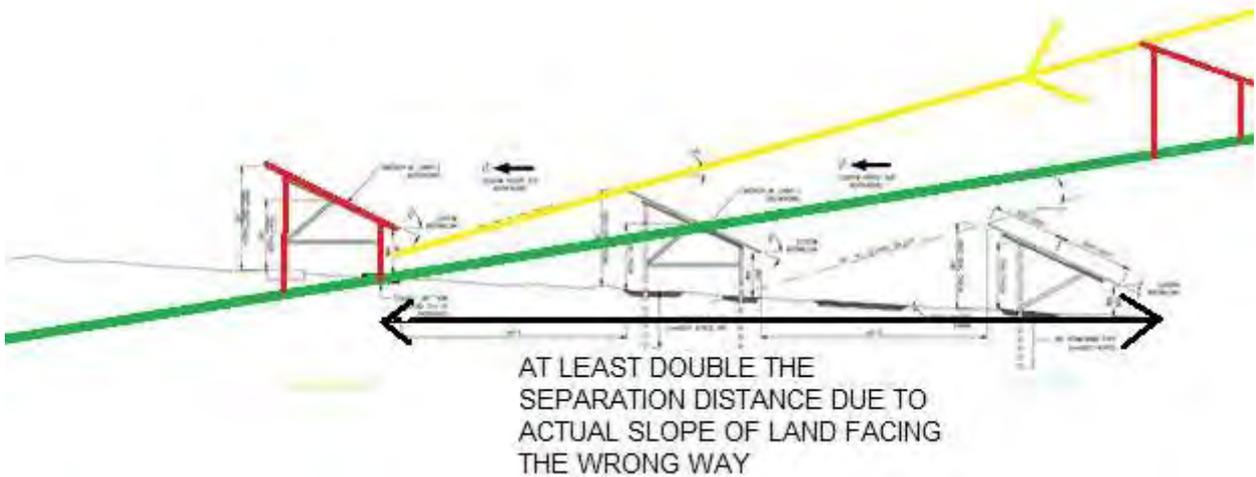
PLEASE NOTE THE ABOVE MAP WAS NOT SUBMITTED WITH THE PLANNING APPLICATION

The contour map submitted with the application had the contours hidden beneath the schematic array layout.

This land is fundamentally unsuitable for the development of large scale solar PV because the panels will have to be mounted **counter** to the slope of the land in order to gain exposure to the sun at the correct angle. The result of this counter intuitive orientation is that it will massively reduce the actual output of this proposal yet still blight the same acreage of land.



Above: Elgin **incorrectly** describe this as "Typical Section through PV Module_Nov 2014" - this would describe installation on a **South facing slope**. **This is not true as the land does not typically feature South facing slopes.**



Above: Actual Typical section through PV Module - this would describe installation on the typically **Northwest facing slopes**. **Note how the separation distances have to at least double to gain the same sun line as the figure above. This will massively reduce the actual output of this proposal yet still blight the same acreage of land.**

Critical Viewpoints:

The main critical viewpoints are seen from the Doagh Road/Ross Lane, Whappstown Road, Speerstown Road and Craigstown Road. Further afield, the development will be seen from the Moorfields/Larne Road and most critically from the top of Slemish where the whole of the development will be visible in one piece.



Above: Application site marked up with critical viewpoints.

Visual Impact Analysis from the peripheral roads: Doagh Road/Ross Lane, Speerstown Road and Craigstown Road

Visual Impact from the Doagh Road: Unusually for development in the countryside, this proposal spans for approximately 1.2 miles across 250 acres of farmland. From the Doagh Road it will be seen at the junction of the Doagh Road and the short stub road that leads up to the Ross Lane. The current attractive grouping of houses framing the extended slope of fields rising up to Mann's Hill will now frame an industrial scale development in the fields. Reference can be made to the visual impact of the nearby power substation which has a hugely negative impact on its immediate neighbourhood and it is of a much smaller scale than the proposed field destruction proposed here.

The little grouping of 12 houses that form this Ross Lane cluster corresponds to the traditional character of hamlets traditionally found throughout rural NI. Clearly Planning Service has seen the granting of permission here for an extensive number of houses as acceptable within the countryside setting framing the rural prospect that surrounds them. However, Elgin's proposal detrimentally changes the character of this area when it directly abuts these residential properties in such a crude manner and with no regard to the loss of residential amenity for around 36 residents or change of rural character.

Elgin's proposal detrimentally changes the character of this Ross Lane Area when it abuts around 14 residential properties in such a crude manner and with no regard to the loss of residential amenity or change of rural character.



Above: Visual Impact from the Ross Lane Point A: effect of the proposed solar PV power station on Ross Lane residents

Visual Impact from the Speerstown Road:

It is hard to believe that 1.2 miles away the development impacts just as directly on another public road - the Speerstown Road - where it also directly abuts the public thoroughfare.

Here no attempt is made to ameliorate the impact of the huge scale of this industrial development nor the extensive views of it from the public domain. The development runs alongside the Speerstown Road for 250 metres and extends west from this road towards the skyline. Currently attractive farmland is taken out of agricultural productivity and replaced as an industrialised landscape in full visibility of the busy public road. No effort is made to manage the visual impact and the result is a complete change of rural character of this area and loss of visual amenity. This again confirms the cynical disregard the developer has to affected neighbours and road users of this locality.

-

Above: Photo taken from Speerstown Road Point B - currently attractive farmland is



Above: Photo taken from Speerstown Road Point B - currently attractive farmland is taken out of agricultural productivity and replaced as an industrialised landscape in full visibility of the busy public road. The applicant suggests a 2.5m high bank with trees on top to screen the solar panels. This is insensitive and will change the landscape character of the area from one that is open to one that is artificially closed in order to screen an inappropriately sited development. This is contrary to PPS21.

Visual Impact from the Craigstown Road:

On the northern Craigstown Road there are a number of intermittent views of the proposed development. The impact is not as directly crude, visually, as that proposed for the Doagh or Speerstown Roads, but what is noticeable is the extended length of visual impact of it.



Above: Photo from the Craigstown Road Point C. The Craigstown Road runs parallel with the development, and to the South of it, with views up to Elliott's Hill. This emphasises brutally the inordinate scale of Elgin's proposal.

This study of the visual impact from the peripheral roads confirms that the visual effect of the proposal is in no way contained. It extends its influence across the lower slopes of Elliott's Hill repeatedly impacting on a broad landscape extending over 1.2 miles in length. The overriding visual and psychological impression is of a relentless visual over a never ending distance. It is hard to imagine anywhere else where such a blatant intrusion into people's visual amenity has been sanctioned.

Visual Impact Analysis from the bisecting road - Whappstown Road:

The proposed solar PV power station straddles the Whappstown Road, abutting residents' private gardens and in some cases completely surrounding them.

The Whappstown Road is a particularly attractive road and is enjoyed as a rural amenity by walkers, runners, cyclists, horse riders and pony and trap enthusiasts. It also is home to the RSPB reserve and a wetlands area. The area is bounded by low or sparse hedges and as you rise up above the snow line, the vegetation decreases further to give way to open hills farmland with extensive fields, areas of wetlands , lakes and dams. This is what makes this area particularly beautiful to residents and visitors.



Above: View from the Whappstown Road at Point D looking North West. Note that this area is twice the size of the villages of Kells and Connor put together. **This view only represents half of the development.**



Left: view from point D on the Whappstown Road looking south. The houses here are completely surrounded by the solar development and its security fencing.



View from the Whappstown Road at Point E travelling North East

Residential Amenity

Elgin's proposal for the Whappstown Road demonstrates no regard to residential amenity, visual amenity or landscape setting.

Additional to the solar panels, there will be a high security fence bounding the entire facility and abutting the roads and residents' private amenity spaces. Residents have reported that it will feel like living in a prison. Elgin have responded with an amendment to the fencing of deer fencing. There are no deer on the Whappstown Road. Security fencing is required for insurance purposes to keep vandals out - for their protection against electrocution. Due to the adjacency of the solar panels to the road, deer fencing will not keep vandals out and not keep them safe from electrocution should they damage they panels. Deer fencing will not keep the children of residents out and it is the children that we need to protect from electrocution should the vandals have damaged the panels. **Therefore, high security fencing is required because Elgin have chosen to maximise their opportunity for development and extend the facility right up to the road edge. This high security fencing will have a further detrimental visual impact on the landscape visual amenity.**

What is really needed to protect the children of this area is a high security fence which will look like the security fence that surrounds a solar farm in England - see below.

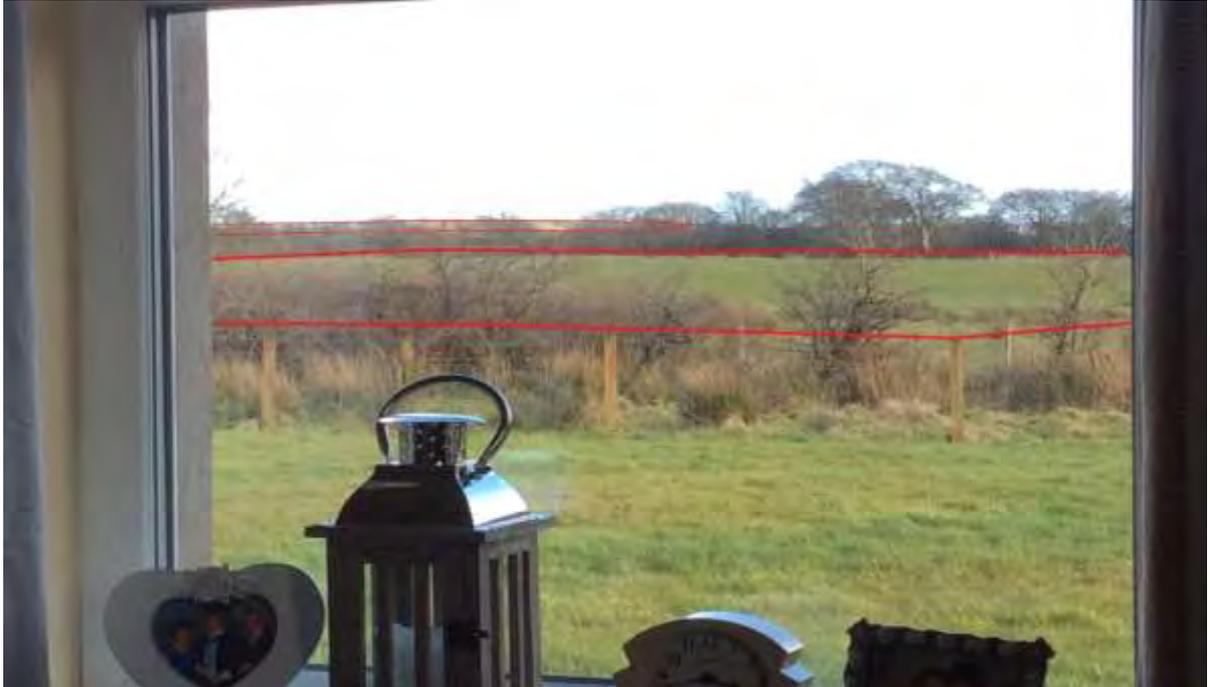


The implication of the extent of solar panel coverage, and its proximity to roads, means that a high security fence is needed. For some residents this will surround and abut their homes and they have said in their letters of objection that it will feel like living in a prison.

For residents in the Speerstown Road area they will no longer enjoy the feeling of living in the countryside because their extensive views of open landscape will be covered by hundreds of acres of solar panels.



Above: typical view from a neighbour on Speerstown Road (22 Speerstown Road).



Left: typical view from a neighbour on Ross Lane (17 Ross Lane)

KellsVOCAL response to Section 7 of ES - Terrestrial Ecology and Ornithology

KellsVOCAL has examined Section 7 of the ES in very great detail and has noted numerous inadequacies, omissions and inaccuracies.

We believe that the documents that make up section 7 are so fundamentally flawed that they render the Terrestrial Ecology and Ornithology impact assessment unfit for purpose.

SECTION 7 Terrestrial Ecology & Ornithology

In the Document Control Sheets for the Breeding Bird Survey and for the Wintering Bird Survey undertaken by RPS it states:

*'Take note: This report takes into account the particular instructions and requirements of our client at the time of issue. Whilst it is accurate at that time, the baseline environmental conditions at any site may change over time. **This report is not intended for and should not be relied upon by any third party.** RPS does not make any warranty, expressed or implied, or assume any legal liability or responsibility to any third party.'*

As these documents inform the Terrestrial Ecology and Ornithology impact assessment for what would be the largest Solar Power Station in Ireland, it is a matter of the gravest concern that they 'are not intended for and should not be relied upon by any third party' e.g. the Environment Minister, the Strategic Planning Department, Antrim and Newtownabbey Council, Mid and East Antrim Council, NIEA, RSPB, local residents and members of the public.

RPS's disclaimer statements in the Document Control Sheets for the Breeding Bird Survey and for the Wintering Bird Survey appear to render the applicant's impact assessment of this development on priority species such as the Curlew, Snipe and Lapwing, totally unreliable.

The wording used in the Document Control sheet is unclear and it appears that RPS is attempting to distance itself from its own surveys.

Please request that the agent clarifies this statement so that the information can be placed on the planning Portal.

The EU communication on the precautionary principle states:

The precautionary principle applies where scientific evidence is insufficient, inconclusive or uncertain and Preliminary scientific evaluation indicates that there are reasonable grounds for concern that the potentially dangerous effects on the environment, human or, animal or plant health may be inconsistent with the high level of protection chosen by the EU.'

*'The precautionary principle also states that, in the absence of scientific consensus that the action or policy is not harmful, **the burden of proof that it is not harmful falls on those taking an action.***

RPS has produced a Terrestrial Ecology and Ornithology impact assessment which contains Wintering Bird and Breeding Season Bird Surveys that contain disclaimers.

In its consultation response 6th August 2014 NIEA NH states:

'This proposal has the potential to have a significant adverse impact on the breeding curlew population of northern Ireland through loss of breeding sites and disturbance of birds during construction, use and decommissioning of the solar farm.'

There are clearly reasonable grounds for concerns that the proposed development would have potentially dangerous effects on birds, animals and plants. The burden of proof that it is not harmful falls on the applicant who, in submitting an unreliable Terrestrial Ecology and Ornithology impact assessment has not only completely failed to allay those concerns, but has also raised the level of existing concern about the impact of the development on biodiversity.

For example:

'The curlew is protected under Article 4.2 of the EC Birds Directive, Appendix 2 of the Berne Convention and as a quarry species, under Article 4 of the Wildlife (northern Ireland) Order 1985. It is also included on the Red List of Birds of Conservation Concern in Ireland and is listed as a SPECIES THAT REQUIRES MONITORING in the Irish Red Data Book. ' www.doeni.gov.uk/niea/curlew_ni_sap_nov_2_.pdf

Thus the Curlew must be afforded the utmost environmental consideration and protection.

KellsVOCAL urges the Department to apply the Precautionary principle to the proposed development

KellsVOCAL objects that the applicant has not submitted a reliable assessment of the impact of the proposed development on Terrestrial Ecology and Ornithology.

KellsVOCAL urges the Department to apply the Precautionary Principle and ensure that the development does not proceed, on the grounds of unacceptable risk to terrestrial ecology and ornithology, with specific reference to the Curlew and the many additional priority species that inhabit the proposed site and environs.

Only half of the proposed development can be said to be centered at Mann's Hill on the west of the Whappstown Road. The other half is on the east of the Whappstown road and stretches right across to the Speerstown Road. This begs the question: Was the surveyor aware of the eastern half of the site and was a full survey carried out of the eastern half of the proposed site?

Please request that the agent clarifies the statement that the proposed development is centered at Mann's Hill when there is a second equally large land portion to the east of the Whappstown Road.

4. Clarification is needed regarding the Extended Phase 1 Habitat Survey

KellsVOCAL requires clarification from the agent regarding the following points in the Terrestrial Ecology and Ornithology section of the ES:

In point 7.2.2 of Terrestrial Ecology and Ornithology it states that an Extended Phase 1 Habitat Survey was undertaken across four visits between August 2014 and April 2015. However, point 7.3.3 refers to Phase 1 habitats Survey results.

Our understanding is that the applicant was required to carry out an **Extended** Phase 1 habitat Survey. Is this correct? If so, why has RPS carried out a Phase 1 Habitat Survey?

Please request that the agent clarifies exactly which type of survey was carried out so that this information can be assessed prior to any decision being made.

KellsVOCAL requires the exact map location of the various habitat areas described in order to assess the validity or otherwise of the determinations made by RPS regarding:

The ecological value assigned to each habitat by RPS

The magnitude of the potential ecological impact

The duration of the impact

The significance of the impact of the development on each habitat

Please request that the agent provides a new Habitats Survey Results Map that clearly corresponds to the habitat reference numbers in 7.3.3.1, so that this information can be fully assessed prior to any decision being made.

5. Impact Assessment

Point 7.2.6 states:

*'It is important to note that there is no universally recognized definition of what constitutes significance but following the above (CIEEM) guidance a significant impact, in ecological terms (whether negative or positive) is defined as an **"impact on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a given geographic area."***

The Habitats Regulations define 'integrity of the site as:

'The coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.'

'The assessment process firstly requires that ecological features are valued based on their nature conservation interest. For the purpose of this assessment, ecological value will be determined using the criteria defined in Table 7.1 at Appendix 7.1, contained within Volume 11 of this ES. The criteria defined in Table 7.1 is based upon CIEEM Guidelines, which outline up to eight different geographic scales (i.e. international through to Local) by which ecological value can be assigned (IEEM 2006)

For the purposes of this assessment ecological values are redefined Very High through to Negligible.'

*Thus, RPS first of all **redefines** ecological values for the purposes of its particular assessment.*

RPS then advises that:

'Determining whether an impact is deemed significant is therefore often a subjective process based on all relevant and available information, together with professional judgment.'

And

'Assigning values is generally relatively easy and straightforward, particularly in the case of internationally or nationally designated sites. Professional judgment is subsequently important in assigning other values.'

RPS has not made decisions based on all relevant and available knowledge. The failure to carry out a bat survey or a nocturnal bird survey, or even a red squirrel survey (3 recent red squirrel sightings on the Whappstown Rd have been reported to CEDaR by local residents.); the totally inadequate impact assessment for otters, Irish hare, newts and marsh fritillary butterfly; the unreliability of the bird surveys; and the total lack of consideration of the real impact on marshy grassland, wetlands, peat land and flora, all underline a lack of relevant and available knowledge.

The professional judgment demonstrated by RPS in assigning ecological value and impact significance is questionable. This can be best illustrated by the following examples:

(i) Using its own **redefined** ecological value assessment, RPS has designated the Otter, Irish hare , Marsh Fritillary butterfly, Badger and Bat as of **medium ecological value** in spite of them all being N Ireland, UK and International Priority species. Impact assessments for Badger, Otter, Common Newt, Marsh Fritillary are considered to be of Negligible Adverse Significance, in spite of no proper impact assessment being undertaken on the changes to flora, hydrology and habitat caused by the deployment of 200,000 glass panels and associated infrastructure across 250 acres of land.

Taking bats, hedgerows and marshy grassland as examples, we can look at RPS's ecological assessment procedure in greater detail:

(i) Thus, after deciding to redefine the CIEEM ecological value guidelines for its own purposes and assigning the significance of the development impact according to its own "subjective" assessment of significance, RPS has decided that:

Bats are considered to be of **Medium Ecological Value**'

And

*'The impact of the proposed development on bats is considered to be of **Negligible Adverse Significance**'*

This, in spite of not having even carried out a bat survey and given that:

'All bats in Northern Ireland are listed on Annex 1V of the EC Habitats Directive (92/43/EEC) and are protected under the Conservation (Natural Habitats etc.) regulations (Northern Ireland) 1995 (as amended), known as the Habitat Regulations.'

In its pre-application consultation response 7th May 2014, NIEA states:

*'We consider that the site is likely to be used by bats for foraging and commuting. It has been suggested that solar arrays may pose a risk to bats by giving the appearance of water and therefore causing collision and injury/mortality. Potential effects also include removal of foraging habitat. Bats are afforded the highest level of strict protection under the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended). **Information to support this proposal should therefore include a full assessment of the potential effects resulting from this proposal on the local population of bats. Without comprehensive survey information, we are unable to provide advice on the potential for significant effects on the local population of bats.***

Thus using Table 7.1 Ecological value, Bats would clearly be of Very High (International), High (National) and Medium (County) ecological value.

As a bat survey was not carried out, RPS can have no idea whatsoever of the significance of the impact of this development on bat habitat – i.e. with regard to commuting, foraging, roosting and breeding.

(ii) Intact hedgerows (J2.1), Defunct Hedgerows (J2.2) and Hedgerows with trees (J2.5)

'Hedgerows throughout the site are species poor and are frequently in a defunct, unmanaged state, lessening their usefulness to wildlife.'

'These hedgerows are not considered to fall under the species rich hedgerow for which a Habitat Action Plan has been prepared.'

Please request that the agent supplies details of the habitat Action Plan as KellsVOCAL are unable to locate it in the ES.

KellsVOCAL totally disagrees with RPS's assessment of the quality of local hedgerows. KellsVOCAL members have walked the Whappstown and Speerstown Roads and noted the different types of field boundaries and the variety of species that make up our traditional hedgerows. These were found to include native woody species such as ash, rowan, elm, hazel, osier, elder, hawthorn and blackthorn along with honeysuckle, wild raspberry, bramble, fuchsia, whin, lilac, dog rose and ivy. This is by no means an exhaustive list but illustrates clearly the quality of our species rich hedgerows.* The townlands of Castlegore and Maxwell's Walls area host a variety of long established field boundaries, traditional to the Tardree Upland Pastures and the Tardree and Six Mile Water Slopes LCAs. – namely, the species rich hedgerows and trees, low intermittent hedges ,banks, ditches, sheughs and post and wire fencing.**

****Species rich hedgerows typically contain five or more native woody species such as oak, ash, hazel, elm, rowan, and elder.*** (Causeway Coast and Glen's heritage Trust website)

*****Townland hedges are considered the oldest, most ancient, hedge type in Ireland. They generally have a greater tree and shrub species diversity and are associated more with woodland areas.*** (DOE Planning and Environment, Standing Advice 9 – Hedgerows. April 2015)

Yet, RPS considers that all the hedgerow habitats are of **Low Ecological Value** and the impact would be of **Negligible Adverse Significance**, in spite of the extensive stretches of hedgerow and hedgerow with mature trees that would be removed for site accesses along the Whappstown Road.

(iii) Marshy Grassland (B5)

RE1 Renewable Energy - Justification and Amplification: Active Peatland states: '4.12 Active peatland, comprising blanket and raised bog, i.e. peatland on which peat is currently forming and accumulating, is identified as a priority habitat for Europe in Annex 1 of the EC Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive)

Appendix 7.7 of the ES – Ecology and Ornithology -Ecological Constraints and Opportunities Plan

Point 2.1 – Physical Site Characteristics:

*'Surface Water Humic Gley (approx. 287,500 square metres) is the dominant land type to the northwest of the Whappstown Road. **This soil type is found usually in upland areas, in association with blanket peat** (RPS Soil Survey Report, 2014. Marshy grassland covers much of this part of the site.*

Thus this area of Surface Water Humic Gley, associated, according to the 2014 survey carried out by RPS, with blanket peat is Plot 3 - Marshy Grassland area as indicated in ECOP Appendix1, Figure 1 –management Plots and Habitat, which the applicant proposes to deploy solar arrays across.

In Biological Site Characteristics – Marshy Grasslands - Page 5 of ECOP, RPS states:

‘Marshy grassland is the second largest grassland habitat recorded on site. Soft rush *Juncus effuses* and sharp-flowered rush dominate these fields. Flowering herbs are generally infrequent. The exception is the triangular enclosure furthest north. Here abundant rush communities give way to **pockets of purple moor-grass** and *Carex* spp. with frequent tormentil, heath bedstraw *Galium saxatile* and scattered ling heather *Calluna vulgaris*. **Pockets of devil’s bit scabious with marsh violet *Villa palustris*. A sphagnum rich hollow with blunt-leaved bog moss *Sphagnum palustre*, common haircap *Polystrichum commune* and common cotton grass also occur. **Purple moor-grass and rush pasture is a Northern Ireland Priority habitat, subject to its own HMP.****

RPS has incorrectly stated that the Marshy Grassland is not species-rich and yet everything indicates the opposite. The flora found growing on site is characteristic of growing in Marshy grassland e.g.:

Sphagnum palustre, the Blunt-leaved Bog-moss, is a species of peat moss characteristic of peat forming land – bogs, poor fen and flush, wet heath, wet grassland, Montane heath, transition mire and quaking bog.

<https://en.wikipedia.org/wiki/sphagnum>

Devil’s bit scabious is the habitat of the priority species Marsh Fritillary butterfly
Purple moor-grass and rush pasture is a Northern Ireland Priority Habitat associated with Skylark, curlew, reed bunting, marsh fritillary, Irish hare and the ground beetle.

‘The purple moor and rushy pastures play an important role in providing areas where different priority species can live, feed and breed. This includes birds such a skylark, curlew and the reed bunting.

Other animals found here are the Marsh Fritillary, Irish hare and the ground beetle.

*It also provides an area for other UK priority species of plant life to grow such as the blue-eyed grass *Sysyrinchium Bermudiana* and the Irish lady’s tresses orchid.’*

www.tcv.org.uk/northernireland

Purple moor-grass and rush pastures – ‘This habitat is found fragmented in farmland as part parcels, often as wet hollows or field corners and also as unenclosed larger areas . Much of the Northern Ireland resource is found in County Fermanagh on poorly drained drumlin soil around Upper Lough Erne and on the edges of the Antrim Plateau in a more upland environment. The vegetation grades into “other “agricultural grassland (as defined in the Northern Ireland Countryside survey (Cooper and McCann 2001) at low elevation and into poor fen and wet heath at higher elevation.

And

‘Purple moor grass and rush pastures often occur in complex mosaics with other communities and habitats such as wet heaths, dry grassland, swamp, scrub and flushes and consequently transitions are often very common. Purple moor grass and rush pasture frequently grade into marsh and there are many similarities in the range of species present in both.’ www.doeni.gov.uk/niea/purplemoorgrass_pdf-5-pdf

*“Carex is a vast genus of almost 2,000 species of grassy plants in the family Cyperaceae, commonly known as sedges. Other members of the Cyperaceae family are also called sedges, however those of genus Carex may be called “true sedges” and it is **the most species-rich genus in the family**”*

*The marsh violet (*Hottonia palustris*) is a protected species of plant afforded special protection under the Wildlife (NI) Order, 1985, listed in Schedule, Part 1. (Protected plant Species in Northern Ireland) www.habitas.org.uk/flora/protected.html*

Heath bedstraw, *Gallium saxatile* is a protected NI Priority Species found on peatland.

Ling heather, *Calluna vulgaris* is also a priority species found on peatland.

Common haircap, *Polystrichum commune* is the largest native moss in Ireland (Pilcher and Hall 2001) commonly found in the acid soil of peatbogs. www.qub.ac.uk/schools

Sharp-flowered rush *Juncus acutiflorus*, devil’s bit scabious, and tormentil *Potentilla erecta* are both associated with species rich grassland. (Northern Ireland Habitat Action Plan –Purple Moor-grass and Rush Pastures march 2005. www.doeni.gov.uk/niea/purplemoorgrass_pdf-5-pdf)

And yet, RPs considers this priority peat forming habitat to be of **Low Ecological Value and the impact assessment is of Minor Adverse Significance.**

The whole area of the lake and environs at Mann’s Hill requires assessment and classification by independent experts. This is a mosaic habitat where areas of standing water, fen, marshy grassland, and rush pasture all grade into each other. **The area, as a whole, is a species-rich habitat for flora, birds, aquatics, invertebrates and mammals as indicated by RPS’s list of the plants growing on it.** It appears that the applicant’s has attempted to classify an extensive area of marshy grassland as species poor in order to justify the deployment of solar panels across priority habitat.

Solar arrays will alter the flora of the entire site. RPS has totally failed to consider or assess the impact of 200,000 solar arrays, extensive underground cabling and thousands of metal supports on the different types of vegetation and flora across an area of marshy grassland/peat land.

The above examples are just some of the many questionable ecological values and significant impact assessments within this document. It is **unclear** whether RPS has carried out a Phase 1 habitat Survey or an Extended Phase 1 Habitat Survey. However, it is perfectly clear that the habitat survey described in the Terrestrial Ecology and Ornithology section of the ES requires further scrutiny by independent experts.

The Terrestrial Ecology and Ornithology impact assessment is clearly unreliable and incomplete. Due to the risk of the proposed development causing irreversible ecological damage, KellsVOCAL urges the Department to apply the Precautionary Principle and refuse this planning application.

6. The Terrestrial Ecology and Ornithology does not include an Impact Assessment Survey for Bats.

In its pre-application consultation response 7th May 2014, NIEA states:

*'We consider that the site is likely to be used by bats for foraging and commuting. It has been suggested that solar arrays may pose a risk to bats by giving the appearance of water and therefore causing collision and injury/mortality. Potential effects also include removal of foraging habitat. Bats are afforded the highest level of strict protection under the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended). **Information to support this proposal should therefore include a full assessment of the potential effects resulting from this proposal on the local population of bats. Without comprehensive survey information, we are unable to provide advice on the potential for significant effects on the local population of bats.***

However in point 7.3.9 of the Terrestrial Ecology and Ornithology section of the ES RPS state that:

*'Elgin Energy have designed the proposed solar farm to ensure the retention of all buildings, built structures, trees, tree lines, hedgerows and water bodies on site that could provide suitable roosting, foraging or commuting habitat for bat species. **In response, the NIEA stated that no targeted bat surveys were required.***

Please request that the agent submit a copy of the NIEA's consultation response that states that no targeted bat surveys were required so that this can be assessed prior to any decision being made.

If NIEA did decide that no targeted bat surveys were required, please request NIEA to submit details of how and why they reached this conclusion and make these available on the Planning Portal.

7. There has been no proper assessment of the impact of the development on Otters.

Standing Advice 14 – Otters, states:

*'Otters are a European protected species (EPS) and a Northern Ireland Priority Species. Development can cause disturbance or impact directly on their place of refuge or feeding areas. They are subject to a system of strict protection and are a material consideration during the planning process. **They must be considered carefully for any application which has the potential to impact them.***

Far from being considered carefully, the Mammal Survey report devoted a scant 4 lines of text to Otters:

'There is some potential evidence of by the small lake. Features include pathways, a slide –couch like feature and other couches. Plate 9 shows an entry point into the lake. This activity is centered around the otter symbol shown in Figure 1. The lake and associated habitats lie outside the site boundary. '

Firstly the **small** lake is actually a fairly large lake and a priority habitat as the applicant has recognized in Point 3.1 of the pre-application Ecology Scoping Report (Document Control Sheet):

'The inland water body is a 1.5 ha (possibly mesotrophic) lake with associated emergent vegetation around its perimeter and fen vegetation surrounding this in the localized depression of the lake. This habitat can be described as peat forming and is a high priority habitat.'

Again, the high conservation value of the lake and environs is recognized in the Terrestrial Ecology and Ornithology Report which states:

*'Potential otter couches and paths were found around the lakeside including prey remains. In conclusion, **this lake and associated habitats are of high conservation value given the variable nature of habitats present and associated flora.**'*

However this priority habitat, of high conservation value, would now be tightly enclosed by solar arrays. Infrastructure Layout 4.10 indicates that the arrays would come right up to the lake in places.

Point 2.0 – Survey Details in the Mammal Survey Report, gives 6th April 2015 as the final survey date, thus the Infrastructure Layout Plan at that time was Figure 4.9, in which the environmentally sensitive area around the lake had been excluded from development. However the Infrastructure layout Plan Figure 4.10 which was submitted with the planning application now includes the environmentally sensitive marshy grasslands around the lake and environs. Thus the Mammal Survey Report was completed before the Layout Infrastructure Figure 4.10 was adopted.

Please request that the agent submits details of a new Mammal Survey Report, that takes account of the revised development site layout, so that this can be assessed prior to any decision can be made.

Please request that the agent clarifies the decision to deploy solar arrays tightly around a lake and across peat forming land and marshy grassland all of which it clearly knows to be priority habitat of high conservation value. Please ensure that this information is posted on the Planning Portal so that it can be assessed prior to any decision being made.

KellsVOCAL find it odd that the survey only managed to find evidence of otter activity in one location across 250 acres of land that includes a substantial number of watercourses, sheughs, ditches, ponds and the lake. Adjacent to the site there are numerous small ponds, rivers and connections into the site and into the Glenwherry River and the Kellswater. Otters will travel substantial distances from one watercourse to the next using drainage ditches, rivers and ponds and this would have to be taken into account in any professional survey. Local residents are fully aware of the presence of otters in and around the proposed development site.

In the pre-application Document Control Sheet for the Ecology Scoping Report, the applicant states:

‘Vegetation under the PV module will undoubtedly be in shadow for a significant portion of the day, and floristic composition will change over time in response to the new microclimate (less light, more shelter, increased heat)’

‘Cabling has the potential to create new drainage pathways if present within a wet habitat or peatland. There can also be indirect impacts on sensitive habitat outside the development footprint from construction activities’. (DOE Standing Advice Note 21 Energy generation – Solar Farms, Habitat, page 3)

And yet, RPS has made no attempt whatsoever to assess the impact on otter habitat of 200,000 solar panels and thousands of metal supports driven into the ground across 250 acres of land. Row after row of solar arrays will create shading that alters the floras across the entire site; extensive underground cabling, especially through wetlands, will alter the hydrology; water run-off from tilted arrays will cause erosion and scour around supports especially on sloping land.

Standing Advice 14 – Otters, states:

‘Otters are a European protected species (EPS) and a Northern Ireland Priority Species. Development can cause disturbance or impact directly on their place of refuge or feeding areas. They are subject to a system of strict protection and are a material consideration during the planning process. **They must be considered carefully for any application which has the potential to impact them.**’

Please request that the agent clarifies why Otters were not considered more carefully in an application which has the potential to impact them so adversely.

8. The Mammal Survey Report fails to give due consideration to Irish hare and otters.

The title ‘Mammal Survey Report’ suggests that this document is concerned with mammals i.e. more than one species. If it was intended to be only about badgers it would have been called a badger survey report. However, the Introduction to the Mammal Survey Report refers only to badgers:

‘The survey was undertaken in accordance with the Northern Ireland Environment Agency (NIEA) survey specification (NIEA 2013) in order to establish the presence of badger setts and/of foraging areas (and the surrounding area within 25m) at the site of a proposed Solar PV farm site at Kells, Co Antrim.’

The following nine pages are devoted to Tables and 13 photographs of mammal entrances/badger setts, at most of which no evidence of badgers was found.

The final page contains 4 lines of text about otters and one and a half lines of text about Irish hare and the conclusion is that ‘other protected species include one confirmed Irish hare sighting and possible otter activity by the lake.’

This is the total information about otter and Irish hare that was derived from a Mammal Survey Report carried out, by a professional ecologist, across 250 acres of land on 7th and 9th August 2014, 12th September 2014, 6th November 2024 and 6th April 2015.

Please request that the agent clarifies why the N I Priority Species, Otter and Irish hare, were not considered more carefully in a planning application which has the potential to impact them so adversely.

9. The Habitat and Larval Web Survey of the proposed site was not sufficiently robust to protect the Marsh Fritillary butterfly, a threatened priority species.

‘The Marsh Fritillary is listed as a Priority Species under the Northern Ireland Biodiversity Strategy (NIBS). NBS forms an integral part of the UK’s commitment to the Convention on Biological Diversity signed at the Earth Summit in Rio in 1992. It is also on Annex 11 of the EU Habitats and Species Directive, and it is protected under the terms of the Wildlife (Northern Ireland) Order 1985’

*‘The Marsh Fritillary butterfly is a threatened species in need of urgent conservation action across most of Europe. Once found right across Northern Ireland, it is now confined to a few small sites in the east – in Down, **Antrim** and Armagh – and to several large areas in west Tyrone and Fermanagh.’ Butterfly Conservation N Ireland. www.butterfly-conservation*

*‘The marsh fritillary butterfly is protected under article 10 of the Wildlife (Northern Ireland) Order 1985 (as amended) under which it is an offence to intentionally or recklessly kill, injure or take any wild animal included in Schedule 5 of this Order, which includes the marsh fritillary butterfly. **It is also an offence to intentionally or recklessly: damage or destroy, or obstruct access to, any structure or place which marsh fritillary use for shelter or protection; damage or destroy anything which conceals or protects any such structure; disturb a marsh fritillary while it is occupying a structure or place which it uses for shelter or protection.***

The marsh fritillary is also afforded protection as an Annex 2 species of the European Habitats Directive 92/43/EEC. We have a duty to maintain this species at a favorable conservation status ’

(Marsh Fritillary Butterfly Surveys – NIEA Specific Requirements –revised 8/12/2011)

The Terrestrial Ecology and Ornithology impact assessment includes a Marsh Fritillary Habitat and Larval Web survey report. An Extended Phase 1 Habitat Survey was carried out on the proposed site on the 7th and 8th August 2014. That survey identified devil’s bit scabious, the food plant of the marsh fritillary butterfly, in four areas. The smallest of these areas, by the lakeside, **was not assessed** as it was deemed to be in an area not to be developed. A mapping and larval survey of the other three areas was undertaken on 12th September 2104.

Point 7.3.8 of the Terrestrial Ecology and Ornithology impact assessment states that: *‘Devil’s bit scabious was identified in three broad locations within the site during the*

initial Extended Phase 1 Survey.

According to point 7.2.2 of the Terrestrial Ecology and Ornithology report, this Extended Phase 1 Habitat Survey was undertaken across 4 visits between August 2014 and April 2015. This survey also assessed the presence of Badgers, Otters, Irish Hare, Common Lizard and Smooth Newt along with the distribution and classification of all species of ground flora, trees, hedgerows, standing water, running water, marshy grassland, improved grassland etc. across 250 acres of fields and wetland intersected by a hedges, ditches, watercourses, fences and the Whappstown Road.

The Marsh Fritillary Habitat and Larval Web Survey Report states that:

An Extended Phase 1 habitat Survey was carried out on 7th and 8th August 2014. Thus 2 of the four Extended Phase 1 Habitat survey visits took place in August 2014. However, as the Extended Phase 1 Habitat Survey carried out on 7th and 8th August was not confined to searching for marsh fritillary butterfly habitat, KellsVOCAL is not confident that a thorough and robust assessment of the presence of devil's bit scabious could have been carried out across 250 acres of land. It is likely that devils bit scabious was growing in additional areas which were not then surveyed in the **one-day** follow-up habitat and larval web survey on 12th September. All of the areas of devil's bit scabious were found to the west of the Whappstown Road, in proximity to the lake at Mann's Hill and I find it strange that none was located anywhere else across a 250 acre site especially when it will grow on a variety of land types:

'Devils bit scabious can be found in damp meadows and marshes and along woodland rides and riverbanks.' www.wildlifetrusts.org/species

'Devil's bit scabious is a slow growing, native perennial of damp to reasonably free-draining soils with a preference for those that are neutral to mildly acidic. It exploits areas where more dominant species are held in check either through grazing pressure or low fertility, and is found in a range of habitats including hay meadows, damp pasture, woodland rides, heaths and mire.'

Devil's bit scabious can be found by streams, on heathland and in woodland glades and meadows. It has a preference for damp habitats but will grow in dryer places as well. It is unfussy, equally happy in sun or shade, or in calcareous or acid soils.' www.the-lizzard.org/index

KellsVOCAL is concerned that the surveyor's failure to find any larval evidence on a one-day survey may have led to the presumption that there are no Marsh Fritillary habitats within the site. It notes that devil's bit scabious Area C would actually be covered in solar arrays according to the final Infrastructure Layout 4.10 submitted with the planning application. The surveyor's failure to find larval webs in the course of a one-day survey does not mean that there were none. Nor does it mean that there will not be any next year and in years to come, on the same areas of devil's bit scabious that were identified; or at the area at the lake that was not surveyed; or at other areas that went undetected during a snap-shot survey. It certainly does not mean that the applicant can presume that there are no marsh fritillary and proceed to erect solar panels across one of the identified areas of devil's bit scabious habitat.

The applicant must not:

‘damage or destroy, or obstruct access to, any structure or place which marsh fritillary use for shelter or protection; damage or destroy anything which conceals or protects any such structure; disturb a marsh fritillary while it is occupying a structure or place which it uses for shelter or protection.’

RPS states that the marsh fritillary and mammal survey reports were carried out by Mr. David McCormick who ‘has been trained in Marsh Fritillary larval web identification by Catherine Bertrand of Butterfly Conservation Northern Ireland’.

The title ‘Mammal Survey Report’ infers that it is a survey of various mammals whereas it is really a survey of only one mammal - the badger. Eight pages are devoted to photographs of badger setts, 4 lines of text to Otter and 1 line of text to Irish Hare. RPS states:

‘The survey was undertaken in accordance with the Northern Ireland Environment Agency survey specifications (NIEA 2013) in order to establish the presence of badger and/or foraging areas (and the surrounding area within 25m) at the site of a proposed Solar PV farm site at Kells, Co Antrim’

RPS states that the mammal survey was carried out on 7th and 9th August 2014, **12th September 2014**, 6th November 2014 and 6th April 2015. As the 12th September was also the day devoted to the marsh fritillary habitat and larval web survey, I can only question the amount of time one person could realistically spend on each species of concern. The Badger, Otter, Irish Hare and Marsh Fritillary butterfly are all NI priority species and deserving of the most thorough environmental attention given that their 250 acre habitat is under threat from a massive Solar Power Station.

In the larval web survey document, RPS states that the Extended Phase 1 Habitats survey was carried out 7th and 8th August. In the mammal survey RPS state that the mammal survey was carried out 7th and 9th August, 12th September, 6th November and 6th April 2015. The dates given in the mammal survey and the larval web surveys add up to six visits – 7th, 8th and 9th August, 12th September, 6th November and 6th April. In the larval web survey document it states that an Extended Phase 1 habitat survey was carried out on the proposed site on 7th and 8th August 2014 and that the survey identified devil’s bit scabious in four areas. The Terrestrial Ecology and Ornithology document states that “the Extended Phase 1 habitat Survey was undertaken across four visits to the site between August 2014 and April 2015 but neither it nor the larval web survey confirm who carried out these site visits. It is important to know if Mr. McCormick, who is trained in marsh fritillary larval web identification was in fact the person who searched the site for devil’s bit scabious during the extended Phase 1 survey. It is also important to know if the whole site, including the land parcel east of the Whappstown Road was surveyed as there would be potential areas for devil’s bit scabious to grow there as well.

Please request that the agent clarifies who carried out the Extended Phase 1 Habitat Survey as it is not clear from the documents.

Please request that the agent clarifies if the Extended Phase I Habitat Survey of all ecological features such as mammal, insects, amphibians, flora, water courses, trees, hedgerows was carried out across 250 acres by one individual.

On a development site of this magnitude, any areas of devil's bit scabious should be protected and preserved. The deployment of solar arrays will not achieve that aim because they will cause a dramatic change to the range of floras on site. This is a massive solar power station proposal that would bring about a complete change in the physical and ecological environment across 250 acres of land.

'Despite intensive survey, no larval webs were found during the survey of any of the three sites.'

KellsVOCAL notes that **no survey of adult butterflies was undertaken during the period May-June**. NIEA requires these surveys to be undertaken because the presence of adults confirms that there is a marsh fritillary colony in the area.

However, the Northern Ireland Priority Species Information sheet on Marsh Fritillary states that:

'It is listed as a UK Priority Species and is in serious decline throughout Britain and Ireland.

The best time to see it is when the adults are flying between late May and mid July. Larva should be looked for between August and September and again in late spring'

www.habitas.org.uk/priority/species.asp

Thus RPS has not ensured that an adequately robust survey was carried out for Marsh Fritillary butterfly.

Please request that the agent clarifies why no survey of adult butterflies was carried out May-June as this would have provided vital evidence of other possible marsh fritillary habitats.

Please request that the agent explains why an area of Marsh Fritillary habitat has been included in the development area.

The search for devil's bit scabious was undertaken as part of the Extended Phase 1 Habitat Survey on 7th and 8th August 2014. Devil's bit scabious was found growing in four distinct areas. The one-day larval web survey was carried out on 12th September. No larva webs were found.

However the presence of 4 areas of devil's bit scabious and the failure to survey for adult butterflies in 2014 should have prompted a follow-up survey for larval webs in late spring 2015 and a survey for adult butterflies in May and June of 2015. The ES was not submitted until the end of June 2015 and RPS could have ensured that the follow up surveys were carried out in order to ensure that the survey was adequate and reliable.

KellsVOCAL objects that a follow-up larval web survey was not undertaken in late spring 2015.

The Marsh Fritillary Butterfly Survey – NIEA Specific Requirements state:

‘As marsh fritillary populations function at a landscape scale, they are prone to local extinctions. This is balanced by its ability to colonise sites, but only within a range of 10 km. If larval webs are not recorded during the survey, but there are known colonies within 10km of the site, or adult butterflies are recorded on the wing, further surveying is likely to be required.’

The ‘List of Fritillary sites in Northern Ireland listed alphabetically by county’, shows that marsh fritillary have been recorded at the nearby Tildarg Hill J248977. This is well within 10 km of the site.

Site Name	Grid	County	first/last Record	no of years	Sex/ Stage	
Ballybracken Td., 1km NE of Ballynure	J326965	Antrim	1989	1	adult	
Boghill, Granagh Td.	D005150	Antrim	1972	1	adult	
Breckenhill Dam	J238956	Antrim	1985-1988	3	adult	
Cave Hill	J322790	Antrim	1937-1942	3	adult	
Crow Glen, Wolf Hill	J287769	Antrim	1950-1951	2	adult	
Divis Mountain	J2875	Antrim	1998	1	adult	
Drumraymond Bog	H990940	Antrim	1977	1	adult	
Dundrod	J217773	Antrim	1986	1	adult	
Friends School, Magheralave Rd., Lisburn	J247650	Antrim	1960s	?	adult	
Frosses Bog, Glarryford	D0515	Antrim	1975	1	adult	
Garry Bog ASSI	C942315	Antrim	1970	1	adult	
Giant's Causeway (Unlocalised)	C950444	Antrim	1941	1	adult	
Lisnagunogue Bog	C984416	Antrim	1975-1985	3	adult	
Montiaghs Moss ASSI	J0965	Antrim	1933-1999	15	adult,	larva
Rabbit Hill, Ballygarvey Td.	D118047	Antrim	1952	1	adult	
Sharvogues Bog	J104955	Antrim	1997-1998	3	adult	
Slievenacloy Td., nr. Black Mountain	J2471	Antrim	1961-1992	4	adult	
Tildarg Hill	J248977	Antrim	1997	1	adult	
White Head, Whitehead	J474911	Antrim	1986	1	adult	

Reference: The ‘Distribution, status and habitat preference of the Marsh Fritillary in Northern Ireland - A Report to Environment and Heritage Services’, B. Nelson
www.doeni.gov.uk/niea/marshfrit.pdf

The inadequate survey is compounded by the applicant's failure to survey the area of devil's bit scabious alongside the lake and to deploy solar across the whole of devil's bit scabious Area C. The applicant proposes to place solar so tightly around the lake that to claim that this fourth area is outside the development is a pretty feeble excuse for not affording this priority species the protection it is afforded under NI, UK and EU legislation.

Solar arrays will alter the flora of the entire site. RPS has totally failed to consider or assess the impact of 200,000 solar arrays and extensive underground cabling on the different types of vegetation and flora across the site.

In the pre-application Document Control Sheet for the Ecology Scoping Report, the applicant states:

'Vegetation under the PV module will undoubtedly be in shadow for a significant portion of the day, and floristic composition will change over time in response to the new microclimate (less light, more shelter, increased heat)'

Common sense would inform anyone that the flora across the entire development site would be changed dramatically by the shading of 200,000 panels, the altered water run-off from tilted arrays on undulating ground, the effects on drainage and hydrology of extensive underground cabling.

'Cabling has the potential to create new drainage pathways if present within a wet habitat or peatland. There can also be indirect impacts on sensitive habitat outside the development footprint from construction activities'. (DOE Standing Advice Note 21 Energy generation – Solar Farms, Habitat, page 3)

Herbicides would have to be used extensively to control the weeds that will establish under the solar panels. The flora right across this site would change. If the floras change, then the insects that feed on, and inhabit the flora, will also change. There will be a knock-on effect that will impact on all of the biodiversity of this site. See below for examples of weed growth under solar arrays.



Fixed tilt power plant in Ontario,
Canada



Weed-ridden solar farm near
Markranstadt, Germany

www.greentechmedia.com

Yet RPS and the applicant have not once considered the impact of 200,000 glass panels and supports and cabling on floras, birds, mammals, birds, and insects.

KellsVOCAL objects to the inadequate and incomplete survey of Marsh Fritillary Butterfly and to the disregard of its habitat caused by the deployment of solar arrays on top of areas of devil's bit scabious.

10. There was no survey carried out for Irish Damselfly which is on the N Ireland priority Species list.

A terrestrial ecology survey should have been carried out in order to assess the presence of Irish Damselfly, a NI Priority Species, at the various ponds located across the development site and at the lake at Mann's Hill.

The NI Species Action Plan for the Irish Damselfly states:

'In Northern Ireland, small lakes are an important resource for the Irish damselfly, but many have never been surveyed for the presence of this species and so the potential remains for more new colonies to be discovered.'

Local residents have reported sightings of Irish Damselfly at other ponds and watercourses adjacent to the site and it is very likely that they would also be found within the development site. Given the concerns that insects can be attracted to solar panels mistaking them for water and have been known to lay eggs on them it is essential that a full survey is carried out for Irish Damselfly.

RSPB has concerns about the deployment of solar PV in proximity to lakes and rivers:

“Concerns are most likely when located in or close to protected areas, or close to water features where development could pose risks to aquatic invertebrates and waterfowl.” (Solar Power- RSPB Briefing, March 2011)

And

Impacts on other wildlife:

'Insects that lay eggs in water (e.g. mayflies, stoneflies) may mistake solar panels for water bodies due to reflection of reflected or polarized light. Under certain circumstances insects have been found to lay eggs on their surfaces, reducing their reproductive success and food availability for birds. This 'ecological trap' could affect the population of these insects, so it may not be appropriate to site solar arrays close to water bodies used by rare or endangered aquatic invertebrates, or where such insects are an important food source for birds using the locality'. (Solar Energy- RSPB Policy Briefing, March 2014))

And

'Ground-mounted solar arrays could result in:

- *direct habitat loss*
- *habitat fragmentation and/or modification*
- *disturbance/displacement of species'*

Suitable sites for large PV arrays are limited in terms of climate, topography, access, existing land use (usually lower-grade agricultural land), shading and proximity to grid connections. Therefore, proposed developments are likely to cluster together and potentially give rise to concerns about the cumulative impacts.' (Solar Energy- RSPB Policy Briefing, March 2014))

11. Poor Quality of Bird Surveys

'The Breeding Bird Survey and the Wintering Bird Survey are both padded out with a confusing degree of tables and data totally unconnected to the proposed site. A layperson would have had tremendous difficulty deciphering that all the desktop study data for BBS squares J2097 and J2495 and for the seven Atlas tetrads were all associated with land parcels at areas, totally removed from, and unconnected with the development site being surveyed. (e.g. Appendix 11 of the Breeding Birds Survey comprised of seven pages of data connected to BBS squares J2097 and J2495.'

'The field survey (Vantage Point Watches) methodology employed was a scaled down version of the industry standard as set out by Scottish Natural Heritage (Scottish Natural Heritage 2014) which aims to quantify the flight activity of birds at a proposed development site.'

Standing Advice 17- Wild Birds refers to Scottish Natural Heritage guidance as applicable to wind energy developments. Obviously, PV solar on an industrial scale is a new technology to Northern Ireland and the specific survey requirements for such intensive land cover has not been assessed or inserted into policy and guidelines.

The deployment of turbines, which are very spaced out across the landscape is clearly a very different proposition from the intensive land coverage of large scale solar arrays.

RPS has made no reference to this and appear oblivious to the implications of applying wind farm survey methods to a solar development e.g. ecological features - flora and mammal or bird habitats, which might happily coexist with widely spread out turbines would be impacted very differently by row after row of panels that shade the vegetation underneath and alter the physical geography of the landscape and habitats.

'Vantage points were chosen which enabled the surveyor to oversee the airspace above the entire site at locations which minimized the effect of the observer on bird behavior. (Figure 2)'

It appears that only two Vantage Points were used to survey Wintering Birds across 250 acres of land.

Reference Table 1, Page 8 of Wintering Bird Survey.

KellsVOCAL objects that this was insufficient to survey such a large area or to clearly identify species and numbers. The fact that Lapwings were only recorded flying over the site or in the distance strengthens this objection. People living in the area are familiar with flocks of lapwing foraging and flying in and around the proposed site. Below are some photographs of Lapwing taken recently by local residents.

We were fortunate to include a very relaxed Buzzard in two of the photographs.



Thus, local residents have been able to photograph buzzards, grey heron, curlew, lapwing and many other birds on and around the proposed development site without any difficulty. We have not been carrying out professional surveys and have not spent hours and hours at special vantage points or carrying out site walk-overs. We simply wish to highlight that priority species, in particular, the red listed Curlew and Lapwing, do forage and breed across this whole area and within the proposed development site.

Please request that the agent clarifies why only two vantage points were used to survey such a large expanse of land for the Wintering Bird Survey so that this can be assessed prior to any decision being made.

With regards to the vantage points for the Breeding Season Bird Survey, RPS states, in very small print, at the bottom of page 10, under Table 5 – summary of vantage point survey results, that:

‘VP3 and VP4 were located at a second parcel of land considered as part of the original plan, but were subsequently dropped.’

It is unclear what parcel of land is being referred to, where Vantage Point 3 and 4 were located, when or why it was decided to omit them.

It is important to have this information because the four remaining vantage points could not have provided adequate views over 250 acres of land.

It is clear from Figure 2 – Location of Vantage Points, that due to the undulating topography, the clustering of dwellings and the numerous tree plantings, there would have been many stretches of the sky that could not have been seen by the surveyor from Vantage Points 1,2,5,6. KellsVOCAL has advised the Department on several occasions that the surveyor was seldom seen by local residents and was only seen outside his car on one occasion

The Scottish National Heritage guidance on vantage point surveys, on which RPS based the survey methodology, states in Point 3.8.2:

‘Detectability of birds to human observers declines with distance. This is particularly noticeable with smaller species, but can also occur due to the species typical flight behavior (e.g. merlin, some smaller breeding waders). Even larger species such as divers show declines in detectability at less than 2km distance.’

A vantage point survey undertaken mainly from inside a car cannot be viewed as adequate. On the simplest of levels, the surveyor would be unable to angle his binoculars properly to view the entire sky from inside a car.

Please request that the agent clarifies exactly where this ‘second parcel of land that was considered as part of the original plan’ was located so that this can be assessed prior to any decision being made.

12. The Breeding Bird Survey is incomplete and inadequate

The Scottish National Heritage guidance on survey methods for moorland breeding birds such as waders states in point 3.7.1:

‘All survey visits should be taken in the same season; splitting survey visits between years is not acceptable.’

And yet, the Breeding Bird Survey and Breeding Wader Surveys were conducted in July and August 2014 and March and June 2015.

Neither period constitutes a full breeding season. It is unacceptable to cobble together the information from incomplete parts of two different year’s breeding seasons. Neither can provide a reliable snapshot of a whole breeding season. Cobbled together they are nonsensical.

This is the quality of the survey from which the applicant concluded that there was no evidence of breeding curlews across 250 acres of curlew habitat – in spite of this area being recognized by NIEA, RSPB and local residents as an area of historical occupancy for curlews.

In its consultation response 24/12/2014, RSPB recommends:

'At least two breeding seasons, although further scoping and survey stage information may lead to the need for additional surveys or increased vantage point hours'

Could it be that RPS thought that incomplete periods of the breeding seasons in two consecutive years might slip though as two full breeding seasons?

The applicant is well aware of what is required for bird surveys. Point 5.0 of the pre-application Ecology Scoping Report- Document Control Sheet states:

*'Depending on the outcome of the Extended Phase 1 Habitat Survey and considered opinion by NIEA NH, **specific protected species surveys may be required if sufficient field information is picked up indicting their presence on the development site** and there is potential for significant disturbance or displacement which would otherwise be an offence under the Wildlife (Northern Ireland) Order 1985 or the Conservation (Natural Habitats etc.) Regulations (Northern Ireland) 1995. Typical surveys may include badger, newt, bat, Irish hare, marsh fritillary butterfly or red squirrel but the scope of any such work can only be informed once the foregoing survey and consultation has been undertaken.'*

If KellsVOCAL was apt to be cynical it would comment that all a developer has to do to avoid too much environmental scrutiny is to make sure that sufficient field information is **not** picked up on site.

The Department has a responsibility to assess all of the applicant's findings against independent expert information and local evidence concerning the presence of priority species within the proposed development site and environs.

KellsVOCAL objects to the incomplete and inadequate survey period for the Breeding Bird Survey and Breeding Wader survey. At least two full breeding seasons would have been necessary with species specific surveys for ground nesting priority species such as Curlew, Snipe and Lapwing.

The likely significant impact of the proposed development is clearly recognised and expressed by NIEA.

'Due to the potential for protected species on site and the proximity of the site to a designated area, please note that this proposal is subject to the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995(as amended (known as the Habitat Regulations)' (NIEA consultation response 7th May 2014)

And

'The area within and around the proposed development site is likely to be used by breeding waders. The curlews nesting in the Kells area represent a significant aggregation in a Northern Ireland context and require protection. It is not known to what extent the proposed solar farm site is currently used by breeding waders, either for nesting or foraging. In addition solar farms may displace other ground nesting birds such as Skylark and Meadow Pipit'. (NIEA consultation response 13th November 2014)

And

'NIEA holds records of breeding curlew within and near to the proposed development. The curlews nesting in the Kells area represent a significant proportion of the Northern Ireland population, so the loss of breeding sites from this area would be significant to the overall population, especially when considered with windfarm developments in the area.' (NIEA consultation response 6th August 2014)

And

'Aerial photographs indicate that priority habitats are likely to be present.' (NIEA consultation response 6th August 2014)

And

'This proposal has the potential to have a significant adverse impact on the breeding Curlew population of Northern Ireland through loss of breeding sites and disturbance of birds during construction, use and decommissioning of the solar farm.' (NIEA consultation response 6th August 2014)

And

The new DOE Case Officer Guidelines for Processing Solar Farm, July 2015 states:

'Solar arrays can have implications for habitat loss, fragmentation and modification and for displacement of species'

The curlew is deserving of specific consideration. It is a vulnerable priority species protected under both EU and Northern Ireland legislation such as the Birds Directive, Natura 2000, the Northern Ireland Species Action plan and the Northern Ireland Habitats Directive.

The Mid and East Antrim Biodiversity Action Plan states that:

'The largest threat (to biodiversity) is the degradation and loss of habitats'

And

'Inland is the Antrim Plateau, a region predominantly of upland, interspersed with scenic valleys such as Glenwherry. The higher ground includes rough pasture, heathland and blanket bog that is important for some birds of prey and rare breeding birds including curlew, one of Ireland's most iconic species.'

The Glenwherry hills and valley area is one of the few remaining curlew habitats in Northern Ireland. They are being monitored locally through the Glenwherry Hill Regeneration Project and the RSPB Halting Environmental Loss Programme, but the curlew is not confined solely to upper Glenwherry, it nests and breeds in this part of the Glenwherry Valley as well.

Local residents are very aware each spring of the return of the curlews. They can be seen and heard regularly across the entire area. The Curlew has a history of occupancy in the townlands of Maxwell's Walls, Castlegore and Whappstown and gives its name to the Whappstown Rd and Townland. The curlews are not as plentiful as they used to be.... but they are still here and need protection more than ever. NIEA and RSPB are well aware of the presence of curlew within the proposed site and environs.

In spring 2015, local residents, took photographs of Curlews foraging and nesting in different locations within and around this proposed site - these photographs have been submitted to the Department. (Appendix 5)

Local residents, NIEA and RSPB are all aware that the development site and surrounding land is significant for curlews because it is one of the last remaining curlew breeding habitats in Northern Ireland.

'The development of a solar farm could result in direct habitat loss and fragmentation of species across a considerable area ...' (RSPB consultation response 24th November 2014)

13. Breeding Wader Survey

'Ten 1km squares, encompassing the site and an 800m buffer, were walked monthly from March to June in order to detect and locate breeding waders. Visits were not made during adverse weather conditions in so far a reasonably practical and a route was chosen to ensure all parts of the survey area were passed within 250metres or less. Greater emphasis was put on areas which were identified as suitable for breeding waders (i.e. boggy areas, unimproved grassland and Juncus beds) and these areas were walked to ensure all parts were passed within 50-100m'.

In order to walk, once a month, across an 800m buffer zone surrounding the entire site, the surveyor would have had to gain access to the land owned by very many local residents opposed to this development, whose land directly adjoins the proposed site or who live within the 800m buffer zone or the 10 1 km squares. He would have had to have acquired signed authorisation from landowners in order to do this. The undulating nature of the land, the abundance of trees and hedgerows , ditches , fences and watercourses etc. would have made it impossible to survey from a distance and yet RPS claim that the surveyor ensured all areas were passed within 250m and within 50-100m in the most suitable areas for breeding waders.

The logistics of walking over ten 1km squares, ensuring that all parts were passed within 250m and 50-100m are intriguing. In order to walk a 1km square ensuring that you passed within 250m of all areas you would have to walk roughly 2750m or two and three-quarter kilometres. To cover 10 x 1km squares of land would require a 27.5 km walk-over. KellsVOCAL leaves it to the Department's independent advisors to do the math for 50 and 100 metres. In spite of all that walking, Table 3.8 – Summary of Breeding Wader Survey, indicates that no Curlew was found to be breeding on site.

However, local residents, whose land abuts the site and was **not** walked over by the surveyor, managed to photograph breeding and foraging curlew in several locations within the site without walking very far at all.

RPS and the applicant are very well aware of the presence of foraging and breeding curlew within the 250 acres of the proposed site and all across the surrounding area. There are many consultation responses from NIEA and RSPB to that effect, in addition to the documented concerns regarding the unacceptable impact of solar deployment on habitat mitigation land set aside for curlews. They would also be aware that to have provided evidence, in the bird survey, of breeding curlew within the proposed site would have been somewhat inconvenient for their planning application, drawing attention to the fact that, if the adverse impact of solar arrays on one area of curlew habitat is considered unacceptable by NIEA and RSPB, then the whole of the Kells Solar Power Station proposal is rendered equally unacceptable. In the light of the many sightings made by local residents, KellsVOCAL concludes that either the surveyor did not look very hard or that the area to be surveyed was just too large for one person to survey in depth.

For reasons previously outlined, KellsVOCAL questions the claim that 10 1km squares were surveyed during the Breeding Wader Survey. We await clarification from RPS as to how this could possibly have been carried out.

RPS's disclaimer statements in the Document Control Sheets of both bird surveys further illustrates this possibility.

The CIEEM Guidelines for Ecological Impact UK recognise the problems associated with gaining access to private land, in this case, for the purposes of an Extended Phase 1 Habitat Survey:

*'If it is not feasible within the context of a given project to gain access to land beyond the project site, it should be possible to undertake a simple Phase 1 survey from public highways or other accessible public spaces in the zone of influence. **The survey limitations should be described and their effects on the confidence in the conclusions should be assessed**'.*

The Breeding Wader Surveyor did not gain access to all of the land within the 10 1km square and yet RPS makes no reference, either to difficulties encountered with accessing private land or of limitations placed on the survey by a failure to do so.

Please request that the agent submits detailed information describing how the bird surveyor walked, once a month from March to June, across the land belonging to the local residents whose land adjoins the proposed site, lies within the 800m buffer, or is located within the ten 1km squares shown on Figure 3- Breeding Wader Survey Area of the Breeding Season bird Survey.

Please make the agent's response available on the planning portal so that it can be assessed prior to any decision being made.

The Breeding Wader Survey is unreliable and not fit for purpose.

Please note also that the Document Control Sheets for the Breeding Season Bird Survey and for the Wintering Bird Survey, carried out by RPS both state:

*'Take note: This report takes into account the particular instructions and requirements of our clients at the time of issue. Whilst it is accurate at that time, the baseline environmental conditions at any site may change over time. **This report is not intended for and should not be relied upon by any third party. RPS does not make any warranty, expressed or implied, or assume any responsibility to any third party.**'*

RPS is making it clear that both Bird Surveys cannot be relied upon by any third party; therefore they cannot be used in the ES. Thus the Terrestrial Ecology and Ornithology impact assessment is therefore not fit for purpose and should be removed from the ES.

13. Curlew Mitigation Area

'NIEA holds records of breeding curlew within and near to the proposed development. The curlews nesting in the Kells area represent a significant proportion of the Northern Ireland population, so the loss of breeding sites from this area would be significant to the overall population, especially when considered with windfarm developments in the area.' (NIEA consultation response 6th August 2014)

In its pre-app consultation response 7th May 2014, NIEA was so concerned about the destructive impact of solar arrays on a curlew mitigation area proposed by the Castlegore Windfarm, that it made the following statement:

'We also note that part of the site has already been proposed as an area of mitigation compensation for Curlew in association with the proposed Castlegore Windfarm. In the event of the mitigation plan being approved, the presence of solar arrays on these lands would not be acceptable to NIEA.'

The above refers to the applicant's pre-application plans which included land parcels on the northern side of Speerstown Road in the same area as the existing Elliott's Hill and Wolf Bog windfarms and in close proximity to two additional windfarm proposals that were then under consideration and have subsequently been approved - G/2011/0136/F and G/2011/0052/F .

Part of the land included in the applicant's proposal would have overlapped an area identified as a curlew mitigation area for the Castlegore windfarm G/2011/0136/F. The Woodburn lands and Tildarg Road lands were subsequently excluded from the development for various reasons, including the unacceptable impact of solar arrays on an area identified for curlew mitigation. (See Figure 4.4 and Figure 4.5 of Alternatives section for details of location of curlew mitigation area for Castlegore Windfarm)

The impact of the proposed development on curlew habitat is thus clearly recognised and expressed by NIEA throughout its consultation responses:

'In the event of the mitigation plan being approved, the presence of solar arrays on these lands would not be acceptable to NIEA.' (NIEA consultation response 7May 2014)

Thus NIEA must consider that solar arrays would have an unacceptable adverse impact on curlew habitat. It follows, therefore, that NIEA must find the deployment of solar arrays across 250 acres of recognised curlew habitat further along the Whappstown Road equally unacceptable.

In its consultation response 21/05/14, RSPB states:

'We agree with NIEA, and are very concerned that habitat mitigation lands for curlew, linked to a separate development application, may be part of this current proposal. We also request detailed information as to how this would be feasible.'

KellsVOCAL objects that this planning application must be refused because of the clearly stated recognition, by NIEA and RSPB, that solar arrays are unacceptable on areas of Curlew habitat.

14. The Threat to Migratory birds

Historically, this area has provided an annual, temporary home to many species of migratory birds.

In autumn/ Winter we see birds such as swans, geese, ducks, fieldfare coming in from northern Europe, Scandinavia, the Arctic circle. In Spring/Summer we see birds such as the cuckoo, house martins, swallows and swifts flying in from sub Saharan Africa to their traditional Co Antrim breeding grounds. The curlew also comes back inland from our own coasts to one of the few remaining breeding areas in Ireland.

The proposed solar power station, which would spread across 230 acres of farmland, and would be twice the size of the villages of Kells and Connor combined, would be on such a vast scale that it would destroy and fragment habitats and breeding areas for countless **birds, many of which are protected under EU and UK/NI legislation. The migratory birds are protected under international legislation as what happens in one country has a knock on effect in other countries (the Birds Directive 1979, Natura 2000, and the Habitats Directive 1992, the Conservation (Natural Habitats etc.) Regulation NI 1995, UN Biodiversity Convention 1992, the Ramsar Convention 1971)**

I am deeply concerned about the impact that this development would have on migratory birds. The construction stage will impact on the overwintering species, such as the swans and Fieldfares, and/or on the nesting and breeding of spring/summer visitors

such as swallows, swifts and house martins.

There is a very real threat of displacement and habitat avoidance for migrating birds which may either fail to recognise their traditional habitats or simply abandon them when they return to find 250 acres of rigid glass panels spreading across the landscape. What knock-on effect would this development have on their breeding ability and consequently on the numbers returning to Africa and northern Europe.

Under Article 4.2 of the Birds Directive, special conservation measures must be taken for regularly occurring migratory species:

”At breeding, moulting and wintering areas and at staging posts along their migratory route”

RPS has made no attempt to properly assess the impact of this proposal on migratory species i.e.

What special conservation measures can the developer put in place that would comply with the requirements of Article 4.2 of the Birds Directive? What method has the developer put forward to estimate the effect on migrating birds when the real impact could only become apparent in the years after such a massive development has been completed?

A solar power station of this magnitude carries with it the risk of irreversible environmental damage. In the absence of scientific consensus that the action would not be harmful, the burden of proof falls upon the developer, who has failed to make a reliable assessment of the likely impact of this development on migratory birds. For this reason, the Department should apply the Precautionary Principle.

This planning application should be rejected because it is totally inappropriate in terms of size, scale, rural setting and its likely impact on biodiversity and the landscape.

15. The Terrestrial Ecology and Ornithology does not include an impact assessment of the development on nocturnal birds

No assessment has been made of the impact that the proposed development would have on nocturnal birds. N Ireland has some nocturnal migratory birds such as the nightingale and nightjar which visit during the spring and summer months. There are also several species of owl such as the barn owl, the short eared owl and the long eared owl.

The short eared owl is found on upland moorlands, young coniferous plantations, coastal marshes and lowland rough grassland where it hunts for small mammals and birds, sometimes insects.

It is a Northern Ireland Priority Species.

Standing Advice 17- Wild Birds

'Most birds return to the same general nesting location each year and build a new nest. However some species return to the same nest sites year after year, reusing old nests. Some of these species which have been deemed as particularly vulnerable to decline are given additional protection and are listed on Schedule A1 of the Wildlife Order. For these species it is an offence to damage or destroy their nests at any time of the year, even when they are not in use.'

The Barn Owl is included on the Schedule A1 species list.

'The Barn Owl is protected under Schedule, Article 4 of the Wildlife (Northern Ireland) Order 1985. It is also listed in Table 4 in Birds of Conservation Importance (JNCC, 1996). The Barn Owl is included in Red data Birds in Britain, (Batten et al., 1990) it is listed as a Northern Ireland priority Species under the Northern Ireland Biodiversity Strategy'. (Northern Ireland Species Action Plan – Barn Owl, March 2006)

Barn owls favour old barns and tree hollows for nesting and roosting. They require 'rough grassland with good populations of rodents especially voles, Field edges, the edges of watercourses and grass strips alongside woods provide ideal hunting grounds'. www.rspb.org.uk

'For industrial scale solar farms we recommend that a full Environmental Assessment to be carried out, including desktop surveys and an assessment of the likely impact of the proposal on both Barn Owl roost/nest sites and foraging habitat before planning permission is considered.' www.barnowltrust.org.uk

Solar panels across large areas could pose a collision risk to Barn owls because they tend to hunt at roughly the height of the solar arrays:

'Relying mostly on sound to locate prey, they fly low (up to about 3metres) and slowly, back and forth across suitable habitat until they hear a small mammal below. Before pouncing, they will often hover, waiting for the perfect moment, although sometimes a barn owl will fly along and then suddenly drop straight into the grass'. www.barnowltrust.org.uk

Please request the agent to explain why no survey was carried out to assess the impact of the proposal on nocturnal birds, in particular the Schedule A1 Barn Owl, so that this can be assessed prior to any decision being made.

16. No assessment has been carried out of the impact of 200,000 solar panels, metal supports and associated infrastructure on the floras within the proposed development site.

The following statements highlight environmental concerns about the adverse impact of solar PV developments:

The new DOE Case Officer Guidelines for Processing Solar Farm, July 2015 states:

'Solar arrays can have implications for habitat loss, fragmentation and modification and for displacement of species'

Concerns are most likely when located in or close to protected areas, or close to water features where development could pose risks to aquatic invertebrates and waterfowl." (Solar Power- RSPB Briefing, March 2011)

"It is likely that the least productive land for agricultural use (grades 3 and 4) will be targeted for development, raising concerns as these grades are often valuable (or potentially valuable) in nature conservation terms." (Solar Power -RSPB Briefing March 2011)

'Cabling has the potential to create new drainage pathways if present within a wet habitat or peatland. There can also be indirect impacts on sensitive habitat outside the development footprint from construction activities'. (DOE Standing Advice Note 21 Energy generation – Solar Farms, Habitat, page 3)

'Vegetation under the PV module will undoubtedly be in shadow for a significant portion of the day, and floristic composition will change over time in response to the new microclimate (less light, more shelter, increased heat)' (See Elgin Energy's pre-application Ecology Scoping Report – Document Control Sheet –Point 4)

Concerns about the specific development site also include:

*'The inland water body is a 1.5 ha (possibly mesotrophic) lake with associated emergent vegetation around its perimeter and fen vegetation surrounding this in the localized depression of the lake. **This habitat can be described as peat forming and is a high priority habitat.** (Point 3.1 of pre-application Ecology Scoping Report- Document Control Sheet)*

*'Potential otter couches and paths were found around the lakeside including prey remains. In conclusion, **this lake and associated habitats are of high conservation value given the variable nature of habitats present and associated flora.**'*

The Terrestrial Ecology and Ornithology impact assessment includes a Marsh Fritillary Habitat and Larval Web survey report. An Extended Phase 1 Habitat Survey was carried out on the proposed site on the 7th and 8th August 2014. That survey identified

devil's bit scabious, the food plant of the marsh fritillary butterfly, in four areas.
'Devils bit scabious can be found in damp meadows and marshes, and along woodland rides and riverbanks.' www.wildlifetrusts.org/species

The Terrestrial Ecology and Ornithology impact assessment contains separate sections which consider potential impacts on the various distinct areas of woodland, grassland, marsh, standing and running water, ponds, lake, mammals, amphibians, insects, birds etc. Oddly, or perhaps not so oddly, all of the impacts are deemed to be of negligible adverse significance or minor adverse significance.

RPS even managed to conclude that the impact on Bats would be of Negligible Adverse Significance – in spite of the fact that it did not even carry out a Bat Survey!

The conclusion that the impact on Bats would be of negligible adverse significance is totally unreliable and unacceptable given that Bats are a Priority Species, afforded the highest level of strict protection under the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) and that no Bat Survey was actually carried out.

The impact on Marshy Grasslands was predicted to be of minor adverse significance, in spite of the fact that:

*'Solar arrays will be erected in these grasslands. **Issues such as compaction, poaching and rutting may arise depending on ground conditions.** These grasslands however have limited botanical value. Birds known to occur which may be impacted include meadow pipit and snipe. Disturbance is predicted to be of Minor Adverse Significance'.*

RPS has conveniently left out the Red Listed Curlew and Lapwing which are likely to inhabit this area.

This is the same area around the lake at Mann's Hill which was previously described as follows:

*'The inland water body is a 1.5 ha (possibly mesotrophic) lake with associated emergent vegetation around its perimeter and fen vegetation surrounding this in the localized depression of the lake. **This habitat can be described as peat forming and is a high priority habitat.** (Point 3.1 of pre-application Ecology Scoping Report- Document Control Sheet)*

RPS state that *'these grasslands however have limited botanical value'* and yet this is one of the areas where devil's bit scabious, the habitat for the priority species Marsh Fritillary Butterfly, was located close to the lake.

Thus RPS concludes that the deployment of solar arrays across a peat forming, priority habitat that is home to curlew, snipe, meadow pipit and lapwing, otter, and possibly

marsh fritillary butterfly would cause disturbance of **Minor Adverse Significance**. This lack of transparency and avoidance of the real impacts of large scale solar deployment is apparent throughout the Terrestrial Ecology and Ornithology reports and highlights the substandard quality of the entire document.

The most glaring omission is the failure to assess the complete and utter ecological devastation that 200,000 solar arrays and associated infrastructure would impose on 250 acres of the Tardree upland Pastures and the Tardree and Six Mile water Slopes. Energy companies are prone to claim that they will enhance biodiversity by planting wild flowers and erecting bird boxes. In the context of this proposal such measures are farcical. No amount of wild flower seeds or bird boxes could ever begin to mitigate the ecological damage that this proposal would cause. To permit this development, knowing the ecological damage that it would inflict on priority species and habitat, could bring the Department into the realm of Environmental Liability.

In its consultation response 24th November 2014, RSPB has expressed concern regarding the effect of solar PV on ecology of the proposed site
*'The development of a solar farm could result in direct habitat loss and fragmentation of habitats across a considerable area, **thus submission of detailed information on ground flora of the proposed site should be made to enable consideration of that site's ecology and sensitivity to proposed changes**'.*

Below are photographs of two solar developments on UK mainland which demonstrate very graphically the realities of Solar Power Stations of this magnitude.

See appendix c – photographs of solar in England. Note: This is just phase 1 of this 50 MW development and is approximately half the size of the proposed Kells Solar Power Station. **Kells Solar Power Station would be almost twice this size.**

This clearly illustrates the profound change that solar arrays impose on the land. It is ludicrous to claim that the impact would be of minor or negligible significance to Terrestrial Ecology and Ornithology.

17. Cumulative Impact

In the Terrestrial Ecology and Ornithology section of the ES, RPS devotes exactly 8 lines of text to the massive issue of cumulative effects:

"The assessment of cumulative impacts estimates the impact of existing, permitted and proposed developments that could act in combination with the proposed development to result in cumulative effects on the ecological environment. There are 22 other developments within a 5km radius of the proposed development that have been considered in the context of terrestrial ecology and ornithology. Given the site's hydrological links, cumulative effects on other aquatic habitats within the Kells water system were considered most pertinent. These are outlined in ES Chapter 15: water quality and Fisheries. It concludes that there will be 'no significant cumulative impact from these developments.' No other developments beyond the Kells Water system are

considered to pose a cumulative impact”.

KellsVOCAL has additional comments to make on the cumulative impact that this development would have:

4 of the scant 8 lines devoted to cumulative impact are concerned with hydrological links, providing a wonderful smokescreen for the absence of any consideration of the cumulative impact on priority habitats and species such as curlew, lapwing, snipe and skylark. RPS has referred to 22 other developments within a 5km radius of the proposed development **but it has carefully omitted to mention the four windfarms that would be in close proximity.** There are already two large operational wind farms in the immediate area at Elliot’s Hill and Wolf Bog. Approval has been obtained for an Anaerobic Digestion Plant at the nearby Tully Quarry on the Moorfields Road. Planning approval has also been granted for two additional wind farms G/2011/0136/F and G/2011/0052/F in close proximity further along the Whappstown Road. The addition of a solar power station stretching across 250 acres of farmland from Ross Lane on the Doagh Road, along and across the Whappstown Road and right across to the Craigstown and Speerstown Roads would create a totally unacceptable cumulative impact. It would be 1.2 mile long, comprising of 200,000 solar panels and be surrounded by 5 miles of security fencing.

This development would straddle the Tardree Upland Pastures and Tardree and Six Mile Water Slopes LCAs, characterised by a sense of tranquility, wildness, openness and high scenic quality. Along with existing, approved and proposed renewable energy proposals for this area, it would create unacceptable clustering and would impose a significant cumulative impact on the landscape and biodiversity of the area.

There is a growing recognition, by government and the public, of the adverse cumulative impact on landscape, biodiversity and rural communities, caused by the clustering of new developments in rural areas. Such impact would be greatly magnified, in this instance, by the magnitude of this development and its proximity to the other large-scale renewable energy sites concentrated within these small adjacent townlands.

“The cumulative impact of development in the countryside has the potential to reduce its value as a regional asset by damaging landscape, biodiversity and natural habitats and to create additional and unnecessary problems for the supply of services.” (Regional Development Strategy for Northern Ireland 2025)

“There are concerns about the cumulative impact of development in parts of the countryside particularly in the east of the region”

And

“A recent Landscape Character assessment for all of Northern Ireland records that in many areas the delicate and high quality rural landscape and the visual amenity of the countryside is compromised or threatened by inappropriate development.”

And

“These growing pressures present a threat to the open countryside which is a vital resource for sustaining the genuine rural community”

The cumulative impacts of this development include:

“The loss of agricultural land and habitats”

“The increased visual impact of structures in the landscape”

(Regional Development Strategy for Northern Ireland 2025 – Section 8 -Rural Northern Ireland)

RSPB also has concerns about cumulative impact:

“Suitable sites for large scale PV arrays are limited in terms of climate, topography, access, existing land use (usually lower grade agricultural land), shading and proximity to grid connections. Therefore, proposed developments are likely to cluster together and potentially give rise to concerns about cumulative environmental impact.” (Solar Power – RSPB Briefing March 2011)

KellsVOCAL is deeply concerned that renewable energy companies are increasingly targeting this small geographical area simply because of its proximity to grid connection at the nearby Kells substation. They are motivated by the availability of farmland rather than the suitability of the sites. Any increase in the number of renewable energy sites concentrated in the Maxwells Walls, Castlegore and Whappstown townlands would constitute unacceptable cumulative development.

The Regional Development Strategy 2025 Section 8 –Rural Northern Ireland states:

“In view of the risk of cumulative impacts resulting in unsustainable forms of development it will be important, as a precaution, to assess future urban and rural development trends in all areas as required.”

The existing Antrim and Ballymena Area Plans do not identify this rural setting as suitable for industrial development. The assessment of future urban and rural trends referred to above, has still to be undertaken for the relevant Area Plans and Local Development Plans for the new Mid and East Antrim Borough and the Antrim and Newtownabbey Borough. Any decision to permit the deployment of a Solar Power Station, twice the size of the villages of Kells and Connor combined, in such a tranquil and rural setting would be to prejudice the planning vision of the new Area Plans and would set a precedent for similar major industrial developments in the countryside.

In the Official Hansard Report – Inquiry into Wind Energy – Windwatch 18th June 2015, Deirdre McSorley (Planning Policy Division) is quoted as saying that:

“We do take in the cumulative impact of turbines in the area....so yes, there are issues

over the cumulative effect and the saturation point.”

She also said:

“We do not have a precise definition of cumulative impact”

Mr. Simon Kirk (Director of Strategic Planning Division) said during that presentation:

“It is a matter of judgment as to when there is just too much.”

These comments from planning experts are deeply concerning because they highlight a lack of clarity and the absence of a standard method of measurement for cumulative development

KellsVOCAL therefore requests an explanation from the Department as to how it will assess the cumulative impact of renewable energy in the area comprising the Castlegore, Maxwell’s Walls and Whappstown townlands, taking into account the potential for a 250 acre solar power station in close proximity to four windfarms. This information is vital to the very many people who live in this area. We wish to know how much renewable energy development the Department believes this area should be expected to absorb and to what extent the following factors – public health and wellbeing; environmental; rural, residential and visual amenity; landscape and economic – have shaped its decision.

Cumulative impact on habitats

This development would have a huge cumulative impact on habitats because it would increase the existing cluster of renewable energy development in the immediate area. There are two large wind farms at Wolf Bog and Elliot’s Hill with recent approvals for a further two wind farms on lands further along the Whappstown Road (G/2011/0136/F and G/2011/0052/F.) Planning permission was also granted in 2013 for an anaerobic digestion development at the nearby Tully Quarry. Local residents are deeply concerned that this entire area is being targeted by renewable energy companies because of its proximity to grid connection at the nearby Kells substation.

Habitats that have already been adversely affected by wind farms can only be further fragmented or indeed destroyed by 230 acres of solar PV panels. There is no justification for a solar station of this magnitude in this location....in environmental terms, it simply cannot be absorbed harmlessly into the landscape.

KellsVOCAL believes that we have a responsibility to preserve the richness and diversity of our landscape and wildlife for the generations coming after us. If this development were to go ahead there would be disruption across 250 acres of countryside and permanent destruction of habitats and breeding areas. This development would industrialise an entire area of the beautiful, lower Glenwherry valley area.

“Suitable sites for large PV arrays are limited in terms of climate, topography, access, existing land use (usually lower grade agricultural land), shading and proximity of grid connections. Therefore, proposed developments are likely to cluster together and potentially give rise to concerns about cumulative environmental impacts.” (Solar Power – RSPB Briefing March 2011)

This development would be totally inappropriate due to its size, its alien nature, its inability to sit unobtrusively within the environment, its cumulative impact and the likelihood that it will fragment and destroy priority habitats and breeding areas for resident, migratory and protected species of birds.

KellsVOCAL objects that RPS has chosen to simply chosen to omit any assessment of the cumulative impact of the proposed development on protected species or the flora and water features that make up their habitats.

Adverse Impact of cumulative development on curlew habitat.

The curlew is deserving of specific consideration. It is a vulnerable priority species protected under both EU and Northern Ireland legislation such as the Birds Directive, Natura 2000, the Northern Ireland Species Action plan and the Northern Ireland Habitats Directive.

The following statement is taken from NIEA - Natural Heritage’s consultation response in the Elgin Energy T/2014/0089/PREAPP.

“NIEA holds records of breeding curlew within and near to the proposed development. The curlews nesting in the Kells area represent a significant proportion of the Northern Ireland population, so loss of breeding sites from the area would be significant to the overall population, especially when considered in combination with wind farm developments in the area.”

The Glenwherry hills and valley area is one of the few remaining curlew habitats in Northern Ireland. They are being monitored locally through the Glenwherry Hill Regeneration Project and the RSPB Halting Environmental Loss Programme, but the curlew is not confined solely to upper Glenwherry, it nests and breeds in this part of the Glenwherry Valley as well. When I moved here 42 years ago the curlews were plentiful....there are not so many now but they are still here and need protection more than ever. The draft NI SPPS (point 6.171) clearly recognises that protection does not only apply to designated areas:

The developer repeatedly stresses that this development is outside of any designated area, however, the legislative requirement to protect species and habitats not just in designated sites, but across all areas of N Ireland is clearly recognised in planning policies.

In the draft SPPS – Natural Heritage section, point 6.171 it states:

“Many important habitats, species and features of natural heritage fall outwith a designated site. To ensure international and domestic responsibilities and environmental commitments with respect to the management and consideration of biodiversity are met, the habitats, species and features below are material considerations in the determination of planning applications”

And, in point 6.172

“Planning permission should only be granted for a proposal which is not likely to result in the unacceptable adverse impact on or damage to, known:

Priority habitats

Priority species

Active peatland

Ancient and long-established woodland

Features of earth science conservation importance

Features of the landscape which are of major importance for wild flora and fauna

Rare or threatened native species

Wetlands (includes river corridors)

Other natural heritage features worthy of protection, including trees and woodland.

Thus this area of the proposed development site is a wetland, is peat-forming, is a priority habitat for devil’s bit scabious and therefore most probably for Marsh Fritillary butterflies. It is recognize by NIEA and RSPB as a priority habitat for rare and threatened species such as curlew, snipe, and skylark. It is frequented by grey heron, graylag geese, wild ducks and swans.

18.

Object KellsVOCAL has serious concerns about the adverse impact that this development would have on the integrity of the Wetlands and Riparian Zone around the lake at Mann’s Hill

In NIEAs consultation response letter dated 12/8/2014 it states:

“Environmental effects of particular concern include the potential impact on visual amenity and landscape character resulting from development of an area of land of high amenity value to the north of Whappstown Road that includes the small lake, wetlands and environs”.

RSPB also has concerns about solar arrays close to water features:

*‘Concerns are most likely when located in or close to protected areas, or close to water features where development could pose risks to aquatic invertebrates and waterfowl.’
(Solar Power- RSPB Briefing, March 2011)*

RPS is fully aware of the environmental sensitivity to development of the lake, wetland area and environs. In the pre-application Ecology Scoping Report – Document Control Sheet Point 3.1, it states:

*'Inspection of aerial photography and a site visit has confirmed that the site is predominantly agricultural, with habitats ranging from intensive improved grassland swards through to unimproved acidic grassland and rush pasture. The inland water body is a 1.5ha (possibly mesotrophic) lake with associated emergent vegetation around its perimeter and fen vegetation surrounding this in the localized depression of the lake. **This habitat can be described as peat forming and is a priority habitat.**'*

And

Point 5.1 of Design and Access Statement – Design Principles, states:

Areas of greatest environmental sensitivity are excluded from development and a package of environmental management proposals including enhancement measures are integral components of the project."

In point 4.7 of Alternatives section of ES it states:

*"Further focused environmental surveys helped to identify locations within the larger land holding which were more sensitive to development. **In accordance with their robust approach and commitment to environmental excellence Elgin excluded these areas from development. The site layout brought forward to the public consultation event on 11th November 2014 is included below in Figure 4.9'***

And

"The illustrated areas to the west of Whappstown Road surrounding the existing pond (Insert Box point B- Figure 4.9 below), as well as an area of species rich marshy grassland to the extreme northwest of the development site (Insert Box Point C – Figure 4.9 below) which it was decided to exclude from the application site boundaries". (See Alternatives Section 4.7 of ES –figure 4.9 Infrastructure layout November 2014)

The applicant has subsequently performed a spectacular environmental U-turn and parted ways from its 'commitment to environmental excellence' by taking in the sensitive areas around the lake and Rath in such an **environmentally insensitive** manner that their solar arrays would now be deployed across the species rich habitat close to the lake and tight around the archaeologically sensitive Rath.

Infrastructure Layout 4.10, submitted with the planning application, clearly indicates the solar arrays deployed tight against the edge of the lake. This would impact on the ecology and ecosystems of the Riparian Zone. The Terrestrial Ecology and Ornithology

document has given this no consideration at all.

A large lake and wetland area would be totally surrounded by over 200,000 rigid glass panels. No amount of wild flower seeds or bird boxes provided by the developer could possibly mitigate the destructive impact of a development so totally alien in nature and appearance to the existing environment.

Please request the agent to submit an explanation of the decision to re-include areas of priority habitat, around the lake at Mann's Hill, within the development site.

Please request that the agent submits details of the exact width of the buffer zone at all points around the lake so that this can be assessed prior to any decision being made.

KellsVOCAL objects to the inclusion in the development of the environmentally sensitive area around the lake at Mann's Hill.

19. Adverse Impact on Peatland and Peatland Habitat.

The applicant proposes to develop an area of peatland close to the lake at Mann's Hill. The Department should ensure that no development is permitted on this extensive area of priority habitat. To allow development would be in breach of the new SPPS (September 2015) and the NI Habitats Regulations.

Point 6.226 of SPPS (September 2015)

'Active peatland is of particular importance to Northern Ireland for its biodiversity, water and carbon storage qualities. Any renewable energy development on active peatland will not be permitted unless there are imperative reasons of overriding public interest as defined under The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 12995 as amended.'

SPPS September 2015 – Point 6.192

'Planning permission should only be granted for a development proposal which is not likely to result in the unacceptable adverse impact on or damage to known:

Priority habitats

Priority species

Active peatland

Ancient and long established woodland

Features of earth science conservation importance

Features of the landscape which are of major importance for wild flora and fauna

Rare or threatened native species

Wetlands (includes river corridors) or

Other natural heritage features worthy of protection, including trees and woodland'

Mid and East Antrim Local Biodiversity Action Plan states:

"Peatlands, which are associated with some of our most interesting wildlife and are one of the most distinctive features of the Irish landscape, are disappearing."

And

'The greatest loss (to biodiversity) is the degradation and loss of habitats'.

RE1 Renewable Energy - Justification and Amplification: Active Peatland states:

'4.12 Active peatland, comprising blanket and raised bog, i.e. peatland on which peat is currently forming and accumulating, is identified as a priority habitat for Europe in Annex 1 of the EC Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive)

'4.13 Any development on active peatland will not be permitted unless it is necessary for reasons of human health, public safety or a beneficial consequence of primary importance to the environment, or to other reasons which in the opinion of the Department, having considered the opinion of the European Commission, are imperative reasons of overriding public interest.'

PPS 18 point 4.7

'Active peatland sequesters carbon from the atmosphere and stores it over long periods of time.'

And

'Active peatland, comprising blanket and raised bog, i.e. peatland on which peat is currently forming and accumulating, is identified as a priority habitat for Europe in Annex 1 of the EC Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive)

4.9

In addition, development in peatland involves the risk of a mass of peat or bog movement, resulting in land slide or bog burst. Where development is proposed on peatland, the onus is on the developer to provide comprehensive information identifying existing, potential and construction induced peat landslide hazards.'

There are serious acknowledged concerns about the adverse environmental impact of underground cables within wet habitat areas.

'Cabling has the potential to create new drainage pathways if present within a wet habitat or peatland. There can also be indirect impacts on sensitive habitat outside the

development footprint from construction activities'. (DOE Standing Advice Note 21 Energy generation – Solar Farms, Habitat, page 3)

*'Another impact of an underground cable is the local dehydration of the surrounding soil. That is because of the reduced quality of heat removal in dependency on the soil texture and humidity. The resulting, minimised heat emission impairs the operating safety of the cable, but affects the vegetation cover, fruit ripeness and vegetation period only in the closest environment of the cable. **The specific influences on the microbiology, flora and fauna are still unknown for the most part.***

In case of accident there is an acute risk for the environment by the contamination with hazardous substances, especially for the groundwater'.

(Environmental Impacts of Underground Cables)

[www.dir.de/tt/Portaldata/41/...WPO5 Environmental Impacts TRANS Final](http://www.dir.de/tt/Portaldata/41/...WPO5_Environmental_Impacts_TRANS_Final)

RPS is very aware that this is an area of peat land:

Point 3.1 of Document Control Sheet of the Ecology Scoping Report of the Pre-application states:

*'The inland water body is a 1.5ha (possibly mesotrophic) lake with associated emergent vegetation around its perimeter and fen vegetation surrounding this in the localised depression of the lake. **This habitat can be described as peat forming and is a priority habitat.***

And

Appendix 7.7 – Ecology and Ornithology -Ecological Constraints and Opportunities plan Point 2.1 – Physical Site Characteristics:

*'Surface Water Humic Gley (approx. 287,500 square metres) is the dominant land type to the northwest of the Whappstown Road. **This soil type is found usually in upland areas, in association with blanket peat** (RPS Soil Survey Report, 2014. Marshy grassland covers much of this part of the site.*

And

11.2.4 of Land Use and Human Environment Section of ES -Site Soil Series:

The majority of the Kells Solar Farm, approximately 448040m sq., is situated within Surface Water Gley, Class 2 Basalt Till.

'A large portion of the remaining area of the farm is situated within Surface Water Humic Gley Basalt Till, approximately 287500m sq.'

Thus this area of Surface Water Humic Gley, associated, according to the 2014 survey carried out by RPS, with blanket peat is Plot 3 - Marshy Grassland area as indicated in ECOP Appendix1, Figure 1 –management Plots and Habitat, which the applicant proposes to deploy solar arrays across.

(Humic gley soils are loamy or clayey, with a humose or peaty topsoil; they also occupy low-lying sites or depressions and are intermediate between cambic and argillic clay soils and peats.' (National Soil Classification.

https://www.landis.org.uk/downloads/downloads/Soil_classification.pdf)

In Biological Site Characteristics – Marshy Grasslands - Page 5 of ECOP, RPS states:

‘Marshy grassland is the second largest grassland habitat recorded on site. Soft rush Juncus effuses and sharp-flowered rush dominate these fields. Flowering herbs are generally infrequent. The exception is the triangular enclosure furthest north. Here abundant rush communities give way to pockets of purple moor-grass and Carex spp. with frequent tormentil, heath bedstraw Galium saxatile and scattered ling heather Calluna vulgaris. Pockets of devil’s bit scabious with marsh violet Villa palustris. A sphagnum rich hollow with blunt-leaved bog moss Sphagnum palustre, common haircap Polystrichum commune and common cotton grass also occur. Purple moor-grass and rush pasture is a Northern Ireland Priority habitat, subject to its own HMP.

In Nature Conservation Objectives and Outlined Prescriptions – Marshy Grassland – Page 9 of ECOP, RPS states:

‘Marshy Grassland –Plot 3-Solar Arrays will be erected on this habitat.’

RPS has incorrectly stated that the Marshy Grassland is not species-rich and yet everything indicates the opposite. The flora found growing on site is characteristic of growing in Marshy grassland e.g.:

Sphagnum palustre, the Blunt-leaved Bog-moss, is a species of peat moss characteristic of peat forming land – bogs, poor fen and flush, wet heath, wet grassland, Montane heath, transition mire and quaking bog.

<https://en.wikipedia.org/wiki/sphagnum>

Devil’s bit scabious is the habitat of the priority species Marsh Fritillary butterfly
Purple moor-grass and rush pasture is a Northern Ireland Priority Habitat associated with Skylark, curlew, reed bunting, marsh fritillary, Irish hare and the ground beetle.

‘The purple moor and rushy pastures play an important role in providing areas where different priority species can live, feed and breed. This includes birds such a skylark, curlew and the reed bunting.

Other animals found here are the Marsh Fritillary, Irish hare and the ground beetle. It also provides an area for other UK priority species of plant life to grow such as the blue-eyed grass Sysyrinchium Bermudiana and the Irish lady’s tresses orchid.’

www.tcv.org.uk/northernireland

Purple moor-grass and rush pastures – ‘This habitat is found fragmented in farmland as part parcels, often as wet hollows or field corners and also as unenclosed larger areas . Much of the Northern Ireland resource is found in County Fermanagh on poorly drained drumlin soil around Upper Lough Erne and on the edges of the Antrim Plateau in a more upland environment. The vegetation grades into “other “agricultural grassland (as defined in the Northern Ireland Countryside survey (Cooper and McCann 2001) at low elevation and into poor fen and wet heath at higher elevation.

And

'Purple moor grass and rush pastures often occur in complex mosaics with other communities and habitats such as wet heaths, dry grassland, swamp, scrub and flushes and consequently transitions are often very common. Purple moor grass and rush pasture frequently grade into marsh and there are many similarities in the range of species present in both.' www.doeni.gov.uk/niea/purplemoorgrass_pdf-5-pdf)

*"Carex is a vast genus of almost 2,000 species of grassy plants in the family Cyperaceae, commonly known as sedges. Other members of the Cyperaceae family are also called sedges, however those of genus Carex may be called "true sedges" and it is **the most species-rich genus in the family**"*

*The marsh violet (*Hottonia palustris*) is a protected species of plant afforded special protection under the Wildlife (NI) Order, 1985, listed in Schedule, Part 1. (Protected plant Species in Northern Ireland) www.habitas.org.uk/flora/protected.html*

Heath bedstraw, *Gallium saxatile* is a protected NI Priority Species found on peatland.

Ling heather, *Calluna vulgaris* is also a priority species found on peatland.

Common haircap, *Polystrichum commune* is the largest native moss in Ireland (Pilcher and Hall 2001) commonly found in the acid soil of peatbogs. www.qub.ac.uk/schools

Sharp-flowered rush *Juncus acutiflorus*, devil's bit scabious, and tormentil *Potentilla erecta* are both associated with species rich grassland. (Northern Ireland Habitat Action Plan –Purple Moor-grass and Rush Pastures march 2005. www.doeni.gov.uk/niea/purplemoorgrass_pdf-5-pdf)

And yet:

In Nature Conservation Objectives and Outlined Prescriptions – Marshy Grassland – Page 9 of ECOP, RPS states:

'Marshy Grassland - Plot 3 - Solar Arrays will be erected on this habitat.'

This is made more reprehensible by the fact that this area was previously to be excluded from development as a result of the applicant's 'robust approach and commitment to environmental excellence'.

Point 5.1 of Design and Access Statement – Design Principles, states:

'Areas of greatest environmental sensitivity are excluded from development and a package of environmental management proposals including enhancement measures are integral components of the project.'

RPS has chosen to omit the very important fact that the site plan was changed in June 2015 to take in the area which it had previously stated was being left out of the development (Reference Figure 4.9 Layout Infrastructure November 2014 and the final Figure 4.10 Infrastructure Layout June 2015, which was submitted with the planning

application)

*“Further focused environmental surveys helped to identify locations within the larger land holding which were more sensitive to development. **In accordance with their robust approach and commitment to environmental excellence Elgin excluded these areas from development”**.*

And

“The illustrated areas to the west of Whappstown Road surrounding the existing pond (Insert Box point B- Figure 4.9 below), as well as an area of species rich marshy grassland to the extreme northwest of the development site (Insert Box point C – Figure 4.9 below) which it was decided to exclude from the application site boundaries”. (See Alternatives Section of ES –figure 4.9 Infrastructure layout November 2014)

The applicant subsequently performed a spectacular environmental U-turn and parted ways from its ‘commitment to environmental excellence’ by taking in the sensitive areas around the lake and Rath in such an **environmentally insensitive** manner that their solar arrays would now be deployed across the species rich habitat close to the lake and tight around the archaeologically sensitive Rath. (See Alternatives Section of ES - Figure 4.10 Infrastructure Layout presented to DOE – June 2015)

The whole area of the lake and environs at Mann’s Hill requires assessment and classification by independent experts. This is a mosaic habitat where areas of standing water, fen, marshy grassland, and rush pasture all grade into each other. **The area, as a whole, is a species-rich habitat for flora, birds, aquatics, invertebrates and mammals as indicated by RPS’s list of the plants growing on it.** It appears that the applicant’s has attempted to classify an extensive area of marshy grassland as species poor in order to justify the deployment of solar panels across priority habitat.

Solar arrays will alter the flora of the entire site. RPS has totally failed to consider or assess the impact of 200,000 solar arrays, extensive underground cabling and thousands of metal supports on the different types of vegetation and flora across an area of marshy grassland/peat land.

Again, the applicant acknowledges that solar arrays will alter the nature of the flora beneath the panels. In the pre-application Document Control Sheet for the Ecology Scoping Report, the applicant states:

‘Vegetation under the PV module will undoubtedly be in shadow for a significant portion of the day, and floristic composition will change over time in response to the new microclimate (less light, more shelter, increased heat)’

The extensive ground shading from solar arrays and the effects on hydrology of underground cables and thousands of metal support poles driven in to a depth of 1.5m (approx. 5ft) will fundamentally alter the hydrology and flora of this peaty land with subsequent adverse impact on the species that occupy the land. It would be totally unacceptable to permit the fragmentation and destruction of this priority habitat that would ensue from deployment of solar arrays and associated infrastructure. Such fragmentation would destroy the integrity of the site:

'The integrity of the site is defined as the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of species from which it is classified'

'In line with the above definition all the influences of the environment (air, water, soil, territory) which act on the habitats and species present on the site have therefore to be taken into account'

'The expression "integrity of the site" demonstrates that the focus is on the specific site. It is not permissible to destroy a site or part of it on the basis that the conservation status of the habitat types and species will remain favourable within the European territory of the Member State'.

The Habitats Regulations - A guide for Competent Authorities.

www.doeni.gov.uk/niea/habitat_regs_guidance_notes.pdf

The ES for this planning proposal is wholly unconvincing in its attempt to demonstrate beneficial consequences of primary importance to the environment. Nor has it substantiated any other reasons of overriding public interest (e.g. social or economic) that would bear the scrutiny of the EU Commission with regard to breaches of the Habitats Directive and the NI Habitats Regulations - Development on Active Peatland.

Objection: The applicant proposes to develop an area of marshy grassland around the lake and wetlands at Mann's Hill which RPS has incorrectly designated as species poor when all of the information supplied by RPS clearly indicates that it is, in fact, species rich. The Department should ensure that no development is permitted on this extensive area of priority habitat, which is vital not just only for priority floras but for each of the priority species that forage and breed there. To allow development would be in breach of the Habitats Regulations, regarding priority habitats and Priority Species.

Please request that the agent explains why a species rich habitat has been described as species poor so that this information can be assessed prior to any decision being made.

Please request that the agent explains why a priority habitat, which it identified as environmentally sensitive in the D&AS and Alternatives Section of the ES, has now been included for development, without any assessment of the impact of solar arrays and associated infrastructure on the hydrology and flora of marshy grassland and peat forming land.

The applicant has acknowledged that:

'Vegetation under the PV module will undoubtedly be in shadow for a significant portion of the day, and floristic composition will change over time in response to the new microclimate (less light, more shelter, increased heat)'

However, no attempt has been made to describe, quantify or assess these changes to vegetation that would occur in response to the new microclimate.

This application is for a Solar Power Station of a magnitude completely new to Northern Ireland. The technology is unknown in Ireland on this scale. The Department simply does not know what impact 250 acres of solar panels will have on the flora of the site or on all the species of insects, mammals, amphibians, and birds that occupy the habitat. It is of grave concern that the ES has failed to provide the Department or NIEA or members of the public with a detailed assessment of the impact of the proposed development, not only on this specific area of peat-forming land, but on the mosaic of land parcels across the entire development site.

In the applicant's 'Kells Solar PV Project Newsletter Summer 2015' it states:

'The ground surface covered by the solar panels is less than 5% of the site.'

This confusing description is based on the calculation that when one adds together the cross-sectional areas of all the narrow metal supports for the solar arrays, they apparently make up 5% of the land area of the site. To imply, from this, that the actual ground surface covered by a glass canopy of 200,000 solar panels is equal to 5% of the site is completely misleading.

Below are photographs of two solar developments on UK mainland which demonstrate very clearly the realities of Solar Power Stations of this magnitude. – see appendix x

In the absence of independent and expert information on the impact of 200,000 solar panels, underground cables and 5ft deep metal supports on the flora of the marshy grassland and the entire site, and in view of the potential for irreversible environmental impact and the likely repercussions on the coherence of the entire site and surrounding area, I urge the Department to apply the Precautionary Principle and refuse this planning application.

20. Plans and Policies

Neither Bird Survey has taken account of the Local Biodiversity Action Plans. One would have assumed that the LBAPs for Mid and East Antrim and for Antrim and Newtownabbey would have been extremely relevant to these surveys because they refer directly to the council areas that the proposed development straddles. Another pertinent source of relevant information would have been the Biodiversity profiles for the Tardree Upland Pastures and the Tardree and Six Mile Water Slopes.

The LBAPs are particularly relevant as they refer specifically to the biodiversity of the Tardree Upland pastures and Tardree and Six Mile Water Slopes LCAs in which the proposed development site is located. The following quotations are taken from the Mid and east Antrim LBAP:

'Inland is the Antrim Plateau, a region predominantly of uplands, interspersed with scenic valleys such as Glenwherry. The higher ground includes rough pasture, heathland and blanket bog that is important for some birds of prey and rare breeding birds including curlew, one of Ireland's most iconic species, The best place to view this landscape is from the top of Slemish, the well-known landmark that many climb on St

Patrick's Day.'

And

'A number of other bird species are in rapid decline including the curlew, lapwing, red grouse, skylark and house sparrow. The depressing reality is that much of our wildlife is under threat.'

And

'Peatlands, which are associated with some of our most interesting wildlife and are one of the most distinctive features of the Irish landscape, are disappearing.'

'Numbers of eel and salmon, species often thought of as indicators of the health and vitality of Irish rivers are crashing'

'The Kells Water is an important nursery stream for trout.

'The largest threat (to biodiversity) is the degradation and loss of habitats'.

'Wet Grasslands are fragile habitats that can be damaged by drainage schemes. '

'The Irish hare prefers areas with both improved grasslands for feeding and fields with rushes or long grasses where they lie up during the day. They used to be common and are still often spotted around Glenwherry and the southern Antrim Hills.

Thus, the applicant needed to go no further than the Local Biodiversity Action Plans to have gain some insight into the severe environmental damage that would be a likely consequence of the proposed development.

However, without having given any consideration to area-specific information in the LBAPs or the actual effects of 200,000 solar panels and associated infrastructure on the ecology – flora, habitats and species, RPS concludes, in the Terrestrial Ecology and Ornithology impact assessment that:

'Significant residual effects upon protected, fragile or rare habitat types within the local or regional landscape are not likely; and significant residual effects upon the distribution, abundance or continued viability of protected or rare species are not likely.

*With the successful implementation of the mitigation measures proposed throughout this ES, the residual impact on designated sites, local habitats and their associated wildlife is considered to be of **negligible adverse significance**. See appendix x*

KellsVOCAL objects to the attempt by RPS to minimize the impact of the proposed development on the terrestrial ecology and ornithology of the site. In the absence of scientific consensus that the proposal would not be harmful to the environment, the burden of proof that it is not harmful falls on the applicant, who has failed to provide an adequate or reliable impact assessment.

Therefore, due to the risk of irreversible environmental damage, the Department

should apply the Precautionary Principle and refuse this planning application.
21. Species Specific Surveys are required

In point 5 of the pre-app Ecology Scoping Report – Document Control Sheet it states:

‘Depending on the outcome of the Extended Phase 1 Habitat Survey and considered opinion by NIEA NH, specific protected species surveys may be required if sufficient field information is picked up indicating their presence on the development site and there is potential for significant disturbance or displacement which would otherwise be an offence under the Wildlife 9(Northern Ireland) Order 1985 or the Conservation (Natural Habitats etc.) Regulations (Northern Ireland) 1995. Typical surveys may include badger, newt, bat, Irish hare, marsh fritillary butterfly or red squirrel but the scope of any such work can only be informed once the foregoing survey and consultation has been undertaken.’

It is noteworthy that the applicant did not mention curlew, lapwing, snipe or skylark, the priority birds that NIEA refers to over and over again in its consultation responses. There is no way that the applicant could not be aware of the importance of curlew and lapwing on site and in the general area because one of the original land parcels had to be abandoned from the development plan as it overlapped a curlew mitigation area designated in connection with the Castlegore Windfarm application. In fact RPS discusses this very fact in the Alternatives section of the ES and actually provides a map of the windfarm and mitigation area to illustrate why the section of land was being withdrawn from the application.

It is also noteworthy that the Terrestrial Ecology and Ornithology surveys failed to find any evidence of breeding curlew, skylark or lapwing on site, didn’t make any attempt at all to carry out a bat survey; did not carry out an impact assessment for nocturnal birds, failed to find any marsh fritillary larval webs at three distinct areas of devil’s bit scabious and didn’t even attempt to survey the fourth section of devil’s bit scabious, at the lake. Four lines of text were devoted to otter in the Mammal Survey Report and Irish hare were mentioned only in passing without any reference whether the development might or might not impact on them.

Thus any need for species specific surveys was fortuitously avoided by RPS’s failure to find any species that might require one.

This planning application is for the largest solar power station in Ireland. It would cover 250 acres of rural land that is home to a significant number of priority species and habitats. Species specific surveys are required for such species as curlew, lapwing, snipe and skylark, in order to properly assess the potential impact of this proposed development. The Department should then ensure that these surveys are then subjected to independent and expert scrutiny.

In the absence of additional surveys, the Department should apply the Precautionary Principle due to the risk of irreversible environmental damage.

22. A Habitats Management Plan should have been included with the oCEMP

The NIEA consultation response 6th August 2014 states:

'A habitat management Plan should form part of the EMP. This should show how the habitats flora and fauna of the site will be protected during and after construction. It should include a long term plan for the management of the site for nature conservation and, if appropriate, show details of compensation measures such as habitat creation. It should also include details of how the ecology of the site will be monitored to show the success of mitigation measures and may include species specific monitoring requirements.'

KellsVOCAL has been unable to find the Habitat management Plan in the EMP/oCEMP or elsewhere in the ES. It is vital that a Habitat Management Plan is submitted with the ES so that it can be assessed prior to any decision being made.

Please request that the agent provides details of where the Habitat Management Plan can be located in the ES.

23. The Terrestrial Ecology and Ornithology impact assessment does not ensure adequate protection for Priority Habitats outside designated areas.

Point 7.3.1 – Designated Sites:

'The site of the proposed development is not located within the boundary of any statutory or non- statutory designated sites of international, national or local nature conservation importance. The site however is hydrologically linked via the River Main to Lough Neagh SPA, Lough Neagh and Lough Beg RAMSAR site and Lough Neagh ASSI. These designated sites are located approximately 26.5km downstream from the site of the proposed development '

RPS is not correct in its assessment because the site does in fact lie within two LCAs that overlap the Causeway Coast and Glens AONB. The development would straddle the Tardree Upland Pastures LCA and the Tardree and Six Mile Water Slopes LCA (Landscape Character Assessment)

In the Tardree Upland Pastures LCA it states:

"This area lies within the Antrim Plateau and Glens.The Tardree Upland Pastures are found on the broad, rounded summits of upper basalt to the southwest of the Larne Basalt Moorland. This is a transitional landscape of, with characteristics of both upland moorland and lowland farmland; the pronounced open valley of the Glenwhirry River is an important local landscape feature.....The northeastern fringe of this LCA overlaps the Antrim Coast and Glens AONB. This designation is indicative of the scenic quality of the landscape."

And

'Four other character areas – Dervock Farm Lands, Ballymena farmlands, Tardree Upland Pastures and Tardree and Six Mile Water Slopes have small portions within the (Antrim Coast and Glens) AONB boundary' (Causeway Coast and Glens heritage Trust – management Plan 2008-2018)

Thus both the Tardree Upland Pastures LCA and the Tardree and Six mile Water Slopes LCA both lie partially within the Antrim Coast and Glens AONB.

Immaterial of this clarification, it is important to note that not all Priority Habitats and Priority Species are located within designated sites. Due to the presence on site of Red Listed priority species such as Curlew and Lapwing, the proposed site falls within the Habitats Directive's definition of a priority habitat hosting priority species:

'Certain natural habitat types and species of flora and fauna which are in danger of disappearing, or for which the Community has a particular responsibility, are classified as priority natural habitat types and priority species respectively and are subject to a higher level of protection.'

PPS 21 Natural Heritage - Policy NH5 – Point 5.11 states:

"Priority Habitats and Species may fall within and beyond designated sites. They include both European (as identified under Annex 1 and 11 of the habitats Directive and Annex 1 of the Birds Directive) and Northern Ireland Biodiversity Strategy (NIBS) (in pursuance of the statutory duties under the Wildlife and Natural Environment (NI) Act 2011."

Standing Advice 13 - Priority Habitats – Advice for planning officers and applicants seeking planning permission for land which may impact on priority habitats April -2015' it states that:

'The Northern Ireland Environment Agency (NIEA) Biodiversity hazard mapping highlights those areas where priority habitats are more likely to occur. However NIEA does not have and cannot reasonably be expected to have, total knowledge of the location of every area of priority habitat in Northern Ireland. Therefore NIEA Biodiversity Hazard mapping should not be utilised to infer the complete coverage of these environmental assets in Northern Ireland'.

And

'Priority habitats are vulnerable to changes in land-use such as development. Whether within designated sites or the wider countryside, these Northern Ireland priority habitats require action to prevent further biodiversity loss and where possible, action to restore

degraded or destroyed habitats.

In the new SPPS, Point 6.191, it states that:

'It is recognized that many other important habitats, species and features of natural heritage, which deliver ecosystem services, fall within or outside a designated site. To ensure international and domestic responsibilities and environmental commitments with respect to the management and consideration of biodiversity are met, the habitats, species and features mentioned below are material considerations in the determination of planning applications'

'Planning permission should only be granted for a development proposal which is not likely to result in the unacceptable adverse impact on or damage to known:

- **Priority habitats**
- **Priority habitats**
- **Active peatland**
- *Ancient and long-established woodland*
- *Features of earth science conservation importance*
- **Features of the landscape which are of major importance for wild flora and fauna**
- **Rare or threatened native species;**
- **Wetlands (includes river corridors); or**
- **Other heritage features worthy of protection, including trees and woodland.**

Point 6.180 of SPPS:

'Planning permission will only be granted for a development proposal that is not likely to harm a European protected species.'

And

"Development proposals are required to be sensitive to all protected species and sited and designed to protect them, their habitats and prevent deterioration and destruction of their breeding sites or resting places. "

And in point 5.3

"It is a criminal offence to harm a statutorily protected species. The presence of species protected by legislation is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitats."

The proposed development site and the surrounding land is a priority habitat supporting priority species such as otter, badger, Irish hare, Marsh Fritillary, bats, owls, curlew, lapwing, snipe, skylark, grey heron, buzzard and migratory species such as house martin, swallow, fieldfare and cuckoo. The lake at Mann's hill is frequented by swans, geese and duck.

RPS acknowledges that site is a priority habitat;

Appendix 7.7 – Ecology and Ornithology -Ecological Constraints and Opportunities plan Point 2.1 – Physical Site Characteristics:

*‘Surface Water Humic Gley (approx. 287,500 square metres) is the dominant land type to the northwest of the Whappstown Road. **This soil type is found usually in upland areas, in association with blanket peat** (RPS Soil Survey Report, 2014. Marshy grassland covers much of this part of the site.*

And

Point 3.1 of Document Control Sheet of the Ecology Scoping Report of the Pre-application states:

*‘The inland water body is a 1.5ha (possibly mesotrophic) lake with associated emergent vegetation around its perimeter and fen vegetation surrounding this in the localised depression of the lake. **This habitat can be described as peat forming and is a priority habitat.**’*

RE1 Renewable Energy - Justification and Amplification: Active Peatland states:

‘4.12 Active peatland, comprising blanket and raised bog, i.e. peatland on which peat is currently forming and accumulating, is identified as a priority habitat for Europe in Annex 1 of the EC Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive)

‘4.13 Any development on active peatland will not be permitted unless it is necessary for reasons of human health, public safety or a beneficial consequence of primary importance to the environment, or to other reasons which in the opinion of the Department, having considered the opinion of the European Commission, are imperative reasons of overriding public interest.’

The proposed development would destroy priority habitats and adversely impact the priority species that occupy the site and the surrounding land.

24. There has been no impact assessment of Fragmentation of Habitat and Displacement

In the Guidance on the Implementation of Article 3 of the Birds Directive (79/409/EEC) and Article 10 of the Habitats Directive (94/43/EEC) it states that:

“Fragmentation normally encompasses two components, the loss (or change) of habitat and the breaking up of the remaining habitat into smaller units (although the term is commonly used to describe only the latter process”. (Point 3.2 Impacts of habitat

fragmentation on biodiversity)

And

“Habitat loss and change can break up continuous habitat into a series of smaller fragmented patches, which exacerbates habitat loss (because some patches may be too small for some species) increases the proportion of habitat edge and increases the isolation of remaining habitat patches.” (Point 5.2 Impacts of habitat fragmentation on species.)

Natura 2000 states that

“All functional connections amongst the individual (wildlife) sites and their surroundings must be maintained. Such conditions might include management measures relating to land use planning, and development policies need to go beyond designated sites’ boundaries and apply to the wider environment, in order to secure the habitats and species within them.”

Article 3 of the Wild Birds Directive states:

*“Member States shall take the requisite measures to preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1.....the **preservation, maintenance and re-establishment** of biotopes and habitats shall include.....upkeep and management in accordance with the ecological needs of **habitats inside and outside the protected zone....”***

Article 2 legislates for” *the maintenance of the populations of all wild bird species across their natural range (Article 2) with the encouragement of various activities to that end.”*

Whilst planning applications are considered on a case-by-case basis, this Natura 2000 statement highlights the necessity of a detailed appraisal of potential/likely environmental impacts beyond the designated site. This would mean that Planning Services, aware of the connectivity, fragmentation and wider environmental issues arising from this solar station, and aware also of additional existing and proposed renewable energy developments in the area, will reasonably be expected to anticipate the knock-on effect of cumulative development on protected species and habitats. The adverse cumulative impact of unchecked renewable energy deployment across Northern Ireland is of growing regional and local concern. As a result, any planning assessments and decisions that impact on the long-term survival of curlew in this area will be closely scrutinised by local residents, the adjacent Glenwherry Hill Regeneration Project, the RSPB Halting Environmental Loss Programme, and NIEA.

The impact of this development would not be contained within the site but would extend to the surrounding habitat areas.....our wild birds do not recognise man-made boundaries. Continuing to permit the destruction of large swathes of curlew habitat, in the interests of renewable energy, contradicts the planning requirements of sustainable development in the countryside and would be in breach of legislation to protect and enhance biodiversity. There is nothing sustainable about allowing the removal of some of the last remaining habitats of a protected species. As habitats shrink and disappear, the curlews find it increasingly difficult to locate suitable, safe nesting sites. Breeding is therefore less successful, they become more vulnerable to predation and numbers

decrease even further.

Curlew habitats and breeding grounds in the townlands of Maxwells Walls, Castlegore and Whappstown are being particularly impacted by cumulative renewable energy deployment. There are already two operational wind farms at Elliott's Hill and Wolf Bog and there are two additional wind farm approvals, G/2011/0136/F and G/2011/0052/F on land further along the Whappstown Road. Developers tend to propose land adjacent to their sites as mitigation areas for wildlife, but because of the measurement of 800m for breeding disturbance distances for curlew, they have run out of alternatives in the townlands of Castlegore, Maxwell's Walls and Whappstown.

NIEA and Queens University National Heritage Research Partnership have carried out a review of the impacts of onshore wind energy development on biodiversity. Table 3 of the review provides details of breeding disturbance distances for N Ireland priority species around wind farm sites. For some birds this is 500m but for the Curlew it is up to 800 metres. Opportunities to mitigate loss of curlew habitats in this area are rapidly diminishing with each additional development that is allowed to spread across this small geographical area. They require a very specific breeding environment on an upland mix of rough pasture and semi-wild, rush or tussock grass areas. These birds can't simply move on down the road to any old field!

The following statement is taken from NIEA - Natural Heritage's consultation response in the Elgin Energy T/2014/0089/PREAPP.

"NIEA holds records of breeding curlew within and near to the proposed development. The curlews nesting in the Kells area represent a significant proportion of the Northern Ireland population, so loss of breeding sites from the area would be significant to the overall population, especially when considered in combination with wind farm developments in the area."

This whole area has a history of occupancy for the Curlew – the Whappstown road was so called as far back as the 1850s due to the prevalence of curlews – Whapp or Whaup being the Scottish name for the Curlew. A land valuation map dated 1862 shows that it had already been named Whappstown Road 150 years ago. It would be a sad outcome indeed if this development caused a loss of habitat for the very birds that gave the area its name.

Habitats that have already been negatively affected by wind farms can only be further destroyed, and fragmented by 250 acres of solar PV panels. Permission should not be given for this development. There is no justification for a solar power station of this magnitude in this rural location. In environmental terms it would be a disaster for landscape, ecosystems, habitats, and biodiversity.

Standing Advice 13 – Priority Habitats states:

'Northern Ireland priority habitats are those habitats which require conservation action because of their decline, rarity and importance. Priority habitats are susceptible to impacts from development.'

Northern Ireland priority habitats include woodlands, uplands, grasslands, wetlands and coastal habitats which contain our most important natural heritage. They are also increasingly recognized as providing a range of ecosystem services such as the provision of clean air, water, flood protection, recreation and tourism which are a wide

benefit to society and individuals.’ www.doeni.gov.uk/niea/biodiversty/habitats
The curlew population is extremely vulnerable to displacement and habitat fragmentation. This development cannot serve to **preserve and maintain** curlew population while simultaneously **decimating** their habitat and breeding grounds. Fragmentation of habitat is recognised as a serious threat to biodiversity. It is not simply a question of loss of habitat within the proposed development – there is the additional impact of fragmentation of habitats resulting from cluster development across the full habitat.

There are two operational wind farms in this area, at Wolf’s Bog and Elliot’s Hill. Planning approval has been given for two additional wind farms which will give a total of 4 wind farms in close proximity to this 250 acre solar site. Each wind farm seeks to nominate adjacent land to mitigate the negative impact of their developments on curlew habitats but, with 250 additional acres of land covered in solar panels, there will be no suitable land remaining for Curlews. Curlews will not continue to nest amidst rotating turbines where there is constant danger, noise and flicker. Nor will they nest or forage among 200,000 solar glass panels. They require land with some patches of grass tussocks or rushes for nesting, across open ground where they can clearly see the approach of predators. This solar power station would further reduce the size of their historic breeding grounds and contribute to the cumulative habitat loss and fragmentation that renewable energy developments are imposing across this whole area. These birds cannot simply move on down the road to any old field.

KellsVOCAL objects that 200,000 glass panels sitting in row after row of 9 ft. arrays and associated infrastructure will destroy 250 acres of historic curlew habitat resulting in fragmentation, displacement and site abandonment.

Due to the relative newness of large-scale solar PV even on the UK mainland, there is scant independent information available to the layperson on the long term impact of large-scale solar deployment on priority species and priority habitats. The Department has a duty of rural stewardship to the biodiversity of the land it considers for development and should be guided by a depth and range of independent expert information that would inform decision making for such a new technology to Northern Ireland. This information should be made available on the planning portal so that informed comments can be submitted prior to any decision being made.

As the Aarhus Convention 1998 - An Implementation Guide points out:
‘Under the Convention, access to environmental information ensures that members of the public are able to know and understand what is happening in the environment around them. It also ensures that the public is able to participate in an informed manner’.

The European Council Directive 2003/4/CE on public access to environmental information (deriving from the Aarhus Convention) was transposed into Northern Ireland through the Environmental Information Regulations 2004 which state that:

- >Public authorities must make environmental information available proactively
- >Members of the public are entitled to request environmental information from public authorities.
- >The Regulations cover any recorded information in England, Wales and Northern

Ireland.”

KellsVOCAL therefore request details of the information on the long-term impacts of large scale solar, on priority habitats and priority species, that the Department will use to inform and shape its decision making.

This planning application must be refused due to its destructive impact on one of the last curlew breeding habitats in N Ireland.

Conclusion

KellsVOCAL finds the Terrestrial Ecology and Ornithology section of the ES unfit for purpose due to the numerous inadequacies, omissions and inaccuracies within it.

It is fundamentally flawed by the statements that RPS has included in the Document Control Sheets for the Breeding Season Bird Survey and the Wintering Bird Survey:

*‘Take note: This report takes into account the particular instructions and requirements of our client at the time of issue. Whilst it is accurate at that time, the baseline environmental conditions at any site may change over time. **This report is not intended for and should not be relied upon by any third party.** RPS does not make any warranty, expressed or implied, or assume any legal liability or responsibility to any third party’.*

As these documents inform the Terrestrial Ecology and Ornithology impact assessment for what would be the largest Solar Power Station in Ireland, it is a matter of the gravest concern that they ‘are not intended for and should not be relied upon by any third party’ e.g. the Environment Minister, the Strategic Planning Department, Antrim and Newtownabbey Council, Mid and East Antrim Council, NIEA, RSPB, local residents and members of the public.

It would appear from the above statement that RPS has attempted to distance itself from its own surveys.

KellsVOCAL has described in detail the risks of irreversible damage to the environment that could be caused by this development. There are numerous uncertainties regarding the impact of a solar power station of this magnitude, in this location, on priority habitats, priority species, wetlands and peatland, ecosystems, flora, hydrology and CO2 sequestration.

In the EA Determination Sheet for this planning application the Case officer expresses concern and uncertainty about the impact of the development:

‘The proposed development raises some potentially significant environmental impacts due to the size, scale and nature of the proposal’.



And

'The magnitude, complexity and frequency of the impact are largely unknown due, in part to a lack of knowledge on the severity of the impacts and the potential mitigation available. The proposed development represents a new technology to the region'.
The applicant has not addressed or even acknowledged the majority of these risks.

A PUBLIC INQUIRY SHOULD BE CALLED TO ASERTAIN THE DANGER THIS PROPOSAL WOULD HAVE ON THE HABITAT OF PROTECTED FLORA AND FAUNA

Proposed Solar Power Station, Kells: LA03/2015/0234/F

Section 8 Flood Risk and Drainage

Introduction

This Chapter of the Environmental Statement (ES) assesses the potential for flooding to the application site. It identifies all possible sources of flooding, establishes their impact on the proposed development, assesses the impact of the proposed development on flood risk and proposes mitigation measures, where required, to minimise the flood risk to both the development and the surrounding area.

How far into the surrounding area? Any associated flooding could impact miles away. 200,000 panels = 390000m² = 39 hectares of glass.

In the context of this report below

<http://www.metoffice.gov.uk/climate/uk/regional-climates/ni>

Over much of Northern Ireland, the number of days with a rainfall total of 1mm or more ('wet days') tends to follow a pattern similar to the monthly rainfall totals. In the higher parts, over 55 days is the norm in winter (December to February) and over 45 days in summer (June to August). In the driest areas around Lough Neagh and eastwards to Strangford Lough, less than 45 days in winter and about 35 days in summer are typical.

The combination of close proximity to active weather systems arriving from the Atlantic and the extensive areas of upland can lead to notable daily and monthly falls. The highest fall in a day was 158.9mm at Tollymore Forest (County Down) on 31 October 1968. Periods of prolonged rainfall can lead to widespread flooding. For example, autumn 2000 was the wettest for over 100 years with several flooding episodes and included a fall of 167 mm at Silent Valley (County Down) over 48 hours in early November.

Rainfall running off 39 hectares of glass WILL RESULT IN FLOODING.

Legislative Context

The Strategic Planning Policy for Northern Ireland, SPPS, states:

6.103 The aim of the SPPS in relation to flood risk is to prevent future development that may be at risk from flooding or may increase the risk of flooding elsewhere.

The agent has not *made any assessment of the risk of flooding from run-off of 39 hectares of glass.*

Using the precautionary principle the department must assume that rainfall run-off from 39 hectares of glass WILL RESULT IN FLOODING

Assessment Methodology

The following tasks were implemented to complete the desk based assessment:

Location of watercourses with the site area;
Initial consultation with DARD Rivers Agency to obtain any relevant information;
Appraisal of proposed development with respect to the 1% AEP flood plain from Flood Maps (NI);
Assessment of the impact due to increased surface water runoff from the proposed development.

REFER TO THE APPLICANTS ASSESSMENT

Increase in runoff

The existing site is Greenfield. The proposals for the site will not significantly increase the rate of discharge from the current pre-development run-off rates as there are limited areas of hard standing associated with the development.

THE AGENT HAS MADE NO ASSESSMENT OF RUN-OFF FROM 39 HECTARES OF GLASS PANELS. HE HAS REFERRED TO “limited areas of hard standing” WHILE TOTALLY IGNORING THE RUN-OFF FROM 39 HECTARES OF GLASS.

Existing Environment

The site has a number of small watercourses flowing through it. An unnamed watercourse flows east through the area, until it reaches its confluence with the Kells Water, just upstream of the village of Kells. Figure 8.1 illustrates the locations of watercourses in the area, with an approximate location of the site marked on. None of these watercourses are designated by Rivers Agency. This means that Rivers Agency has no responsibility for maintenance of these watercourses, and that the responsibility lies with the riparian landowners on either side of the watercourses.

THE AGENT DOES NOT TAKE ACCOUNT OF THE LAKE SET INTO A LOW LYING AREA OF THE SITE. THE RUN OFF FROM 39 HECTARES OF GLASS PANELS FLOWING INTO THIS LOW LYING AREA COULD RESULT IN THE PANELS AND INVERTERS BEING SUBMERGED CAUSING THE WHOLE SITE TO SHORT AND CAUSE ELECTROCUTION AND POSSIBLE EXPLOSIONS.

NO ASSESSMENT HAS BEEN MADE OF THE HAZARDS ASSOCIATED WITH THE SUBMERGING OF EXTENSIVE AREAS OF LIVE SOLAR PANELS

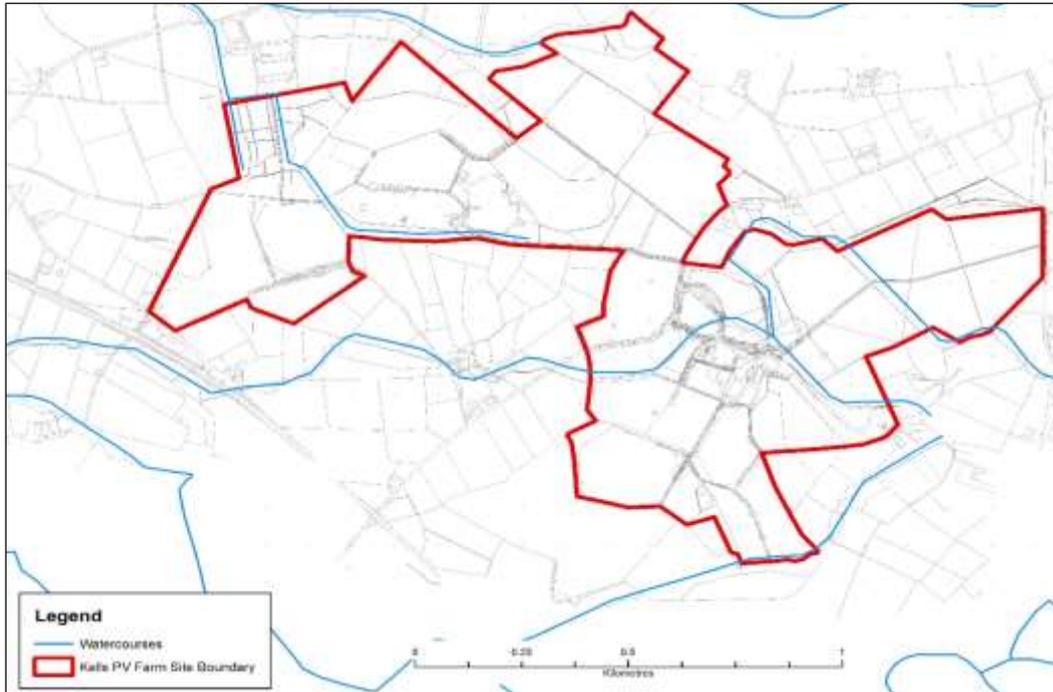


Figure 8.1 Watercourses through the site
 THE SEVERAL LAKES AND THEIR INLETS & OUTLETS ARE NOT IDENTIFIED

Impact Assessment

River (Fluvial) Flooding

The potential for river flooding as outlined in Flood Maps (NI) is shown in Figure 8.2 below. Detailed maps of the area are not available so only indicative maps can be used. **The majority of the watercourses that affect the site are too small to be included on these maps (less than 3km²).** Given the nature of the proposed development *and the fact that the watercourses are very minor*, RPS would consider that the use of the Indicative Flood Maps is acceptable in this case.

Given the scale and nature of the proposed development of the site, combined with the nature of the area (wetland prone to flooding) it is poor that an assessment has not been carried out in respect of the potential risk to residents and businesses as a result of the proposed development.

The watercourse flowing through lands to the rear of 15 Whappstown Road enter the property via a 225mm pipe. After heavy rainfall this pipe cannot take the volume of water and the stream overflows. Causing flooding as indicated on the map below. The pond at the rear of 15 Whappstown was built to regulate this flooding. Having the run off from in the region of 12 acres of glass discharging into this stream WILL CAUSE EXTREME FLOODING.

THE USE OF INDICATIVE INFORMATION IS NOT ACCEPTABLE. SUCH A MASSIVE PROPOSAL WHERE THE SCALE OF FLOODING IS IDENTIFIED IN THE MAP BELOW REQUIRES A FULLY DETAILED ASSESSMENT.

IN THE ABSENCE OF A FULLY DETAILED SITE SURVEY THE DEPARTMENT MUST USE THE PRECAUTIONARY PRINCIPLE AND REFUSE THIS APPLICATION ON THE GROUNDS THAT THE RUN-OFF FROM 39 HECTARES OF GLASS PANELS DISCHARGING INTO MINOR WATERCOURSES HAS THE POTENTIAL TO CAUSE MAJOR FLOODING.

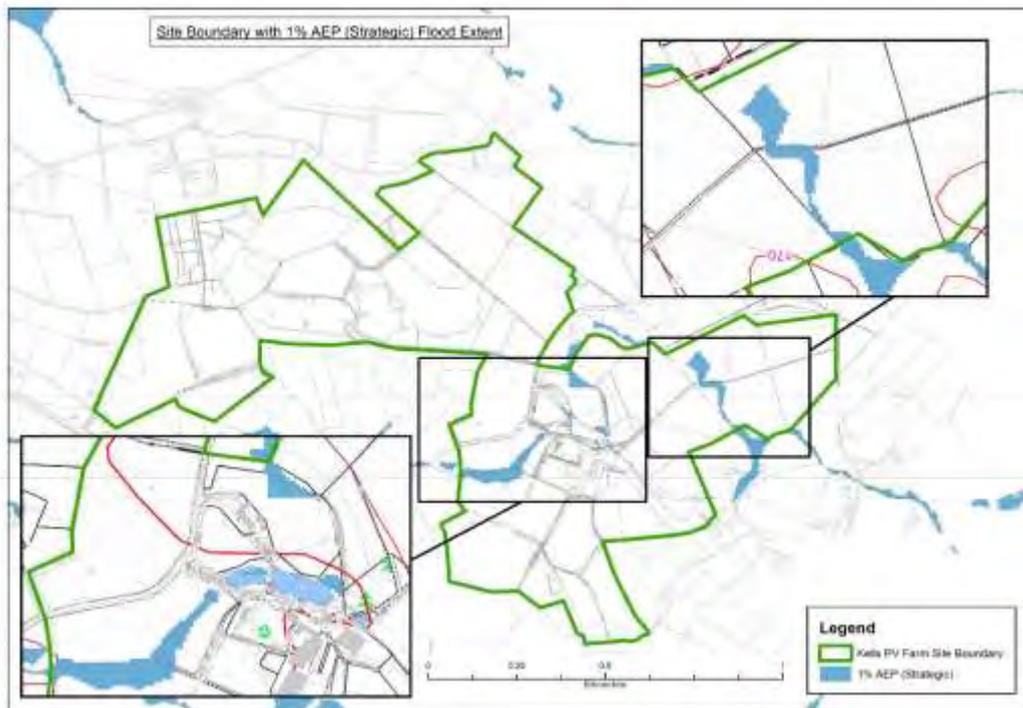


Figure 8.2 Extract from Rivers Agency Indicative Flood Map- River Flooding

In line with the principles set out in PPS 15, a 1% Annual Exceedance Probability (AEP) event should be considered when assessing the flood risk from a river. This represents the probability of an event of this, or greater, severity occurring in any given year.

The Indicative Flood Map (NI) for the area illustrates that narrow areas along the unnamed watercourse are at risk of flooding (areas to the east of Whappstown Road).

THE MAP IS INDICATIVE OF THE POTENTIAL FLOODING RISK ON THE LAND AS IT IS NOW, NOT AFTER THE INTRODUCTION OF 200,000 SOLAR PANELS COVERING 39 HECTARES. IT IS THEREFORE NOT ACCEPTABLE TO USE THIS, APART FROM AS A COMPARISON, BUT NOT ALTERNATIVE HAS BEEN PROVIDING SHOWING THE POTENTIAL IMPACT WITH AND WITHOUT PANELS.

RPS has contacted Rivers Agency’s Planning Advisory Unit regarding the site. They have confirmed that there are no designated watercourses traversing the site, but there are a number of undesignated watercourses present within the site. The Indicative Flood Map (NI) is the best information that Rivers Agency has available for the sites. They do not have any predicted flood levels for the site. They have also confirmed that Rivers Agency has no record of this site flooding. They note that fluvial flood maps show surface water flooding affecting small portions of the site.

THE ABOVE STATEMENT IN RESPECT OF RIVERS AGENCY HAVING NO RECORD OF THE SITE FLOODING IS VERY MISLEADING. IF THE WATERCOURSES ON THE PROPOSED SITE ARE UNDESIGNATED AND RIVERS AGENCY HAVE NOT CONTROL THEN IT WOULD BE EXPECTED THAT RIVERS AGENCY WOULD HAVE NO RECORDS RELATING TO THE PROPOSED SITE. THE SITE IS WELL KNOWN FOR FLOODING AND IT IS A WETLANDS AREA, MANY RESIDENTS HAVE EXPERIENCED FLOODING AT THEIR HOMES OR BUSINESS IN OR AROUND THE AREA WITH THE LAND AS IT IS NOW. THE INTRODUCTION OF SOLAR PANEL WOULD EXACERBATE THE FLOODING ALREADY EXPERIENCED BY RESIDENTS.

THE DEPARTMENT MUST UNDERTAKE AN INDEPENDENT REVIEW OF THE FLOOD RISKS.

Surface Water (Pluvial) Flooding

The potential for surface water flooding as outlined in the Rivers Agency Indicative Flood Maps (NI) is shown in Figure 8.3 below.

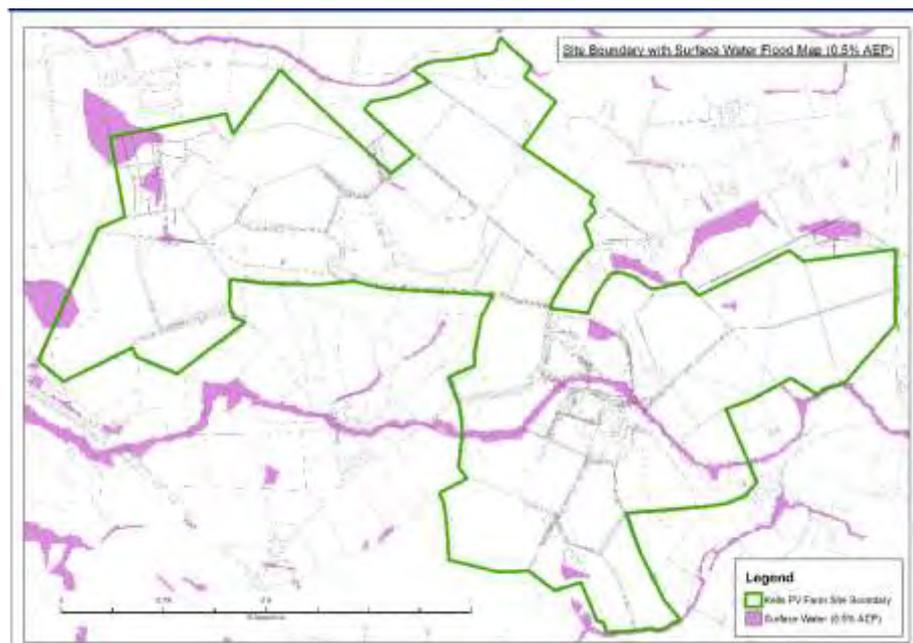


Fig. 8.3 Extract from Rivers Agency Indicative Flood Map- Surface Water Flooding

The Surface Water Flood Maps illustrate the low lying areas and hollows that are estimated to be prone to flooding from rainfall. The map shows that parts of the site may be at risk of flooding from surface water (areas shown as pink in Figure 8.3). These areas tend to be along the unnamed watercourse that flows through the area. Generally in order for an application site to be at risk of surface water flooding it needs to be relatively steep, in a localised depression and/or have immediately adjacent ground which is steep and could contribute significant runoff volumes. The site itself and the surrounding land are gently sloping so there is likely to be a low risk of flooding from runoff from ground elevated above the proposed site. There may be local low points within the site where rainfall can currently pond.

THE ABOVE STATEMENT IS GROSSLY OVER SIMPLIFIED AND MISLEADING BY SUGGESTING THAT THE ONLY LOW LYING AREAS ARE CONTAINED WITHIN THE SITE. THE SITE IS WELL KNOWN FOR FLOODING AND IT IS A WETLANDS AREA, MANY RESIDENTS HAVE EXPERIENCED FLOODING AT THEIR HOMES OR BUSINESS IN OR AROUND THE AREA WITH THE LAND AS IT IS NOW. THE INTRODUCTION OF SOLAR PANEL WOULD EXACERBATE THE FLOODING ALREADY EXPERIENCED BY RESIDENTS.

FIGURE 8.3 IS NOT APPROPRIATE AS IT RELATED TO LAND IN ITS CURRENT USE AND NOT AN ASSESSMENT OF THE IMPACT AFTER 250 ACRES OF LAND HAS BEEN COVERED IN SOLAR PANELS. THE DEPARTMENT MUST UNDERTAKE AN INDEPENDENT REVIEW TO ENSURE THAT INFORMATION SUPPLIED IS UNBIASED AND ROBUST ENOUGH TO BASE DECISION UPON.

Increase in runoff

The existing site is Greenfield. The proposals for the site will not significantly increase the rate of discharge from the current pre-development run-off rates as there are limited areas of hard standing associated with the development.

THE CLAIM THAT THERE WILL BE NO INCREASE IN THE RATE OF RUN OFF IS SIMPLY PREPOSTEROUS. THE APPLICANT IS CLAIMING THAT THE CUMULATIVE EFFECT FROM INCLUSION OF OVER 200,000 SOLAR PANELS OVER 250 ACRES OF AGRICULTURAL LAND WILL NOT INCREASE THE RATE AT WHICH RAINWATER ENTERS THE ALREADY SATURATED WATER COURSES. IT IS PROPOSED THAT THE PANELS ARE ARRANGED IN HUGE ARRAYS, EDGE TO EDGE, FOR MAXIMUM COVERAGE, THIS WILL ACT LIKE A HUGE ROOF WHERE THE LAND UNDER THE PANELS WILL NOT ABSORB RAINFALL. THE AREA HAS A HISTORY OF FLOODING OWING TO THE FACT THAT IT IS A WETLAND AREA AND KELLS VOCAL BELIEVE THAT THE PROPOSED DEVELOPMENT WOULD HAVE SEVERE NEGATIVE CONSEQUENCES WITH RESIDENTIAL PROPERTIES AND BUSINESS EXPERIENCING REGULAR FLOODING.

The panels are being installed on the land as it is currently, and there will be no changes made to existing ground levels or ground cover. Therefore existing surface runoff paths are unchanged. Installation of the panels will have minimal impact on the ground as only the posts are embedded into the ground.

Rainwater falling on the panels will be directed towards the existing ground where it will infiltrate into the ground as it does now.

RAIN WATER WILL ALSO RUN OFF EACH PANEL ARRAY AT THE LOWEST POINT, THIS WILL HAVE A SEVERE IMPACT ON THE LANDSCAPE AND WILL CREATE A SCARING EFFECT OWING TO REPEATED AND CONSTANT STEAM OF WATER AT A SINGLE POINT. WE IMPLOR THE DEPARTMENT TO UNDERTAKE AN INDEPENDENT SURVEY IN RESPECT OF THE LIKELY EFFECTS ON THE WATERCOURSES SHOULD THE PROPOSED DEVELOPMENT PROCEED. WE BELIEVE THAT THE CLAIMS MADE IN RESPECT OF THE INCREASE SURFACE RUN OFF ARE BIASED TO THE EXTREME IN FAVOUR OF THE APPLICATION.

THERE IS NO CONSIDERATION OF RUN OFF FROM CHEMICALS USED TO CLEAN PANELS OR THE IMPACT OF CHEMICALS LEECHING FROM PANELS INTO THE WATERCOURSES.

There is no other significant infrastructure being installed that will impact on runoff. Stones will be placed on the existing ground surfaces to create access roads. Surface water runoff will soak into the tracks where it will infiltrate into the ground as it does now. The sub-station building will have gutters and downpipes, and rudimentary soakaways will be provided for each pipe (consisting of a stone pit). The sub-station compound will be stoned so runoff will soak into the ground as with the roads. Small areas of roofs will be created by the inverter stations but these are insignificant in comparison to the size of the site, and any runoff will soak away.

RPS would not consider that a detailed Drainage Assessment is required for the site as it has been demonstrated that there is zero increase in run-off as a result of development of the site. There are no formal drainage systems being installed, and therefore no discharge consents are required.

THE ABOVE STATEMENT IS BASED UPON A SPURIOUS CLAIM THAT RUN-OFF WILL NOT BE INCREASED AS A RESULT OF THE DEVELOPMENT. THIS IS THE SAME AS STATING THAT THERE IS NO REQUIREMENT FOR GUTTERING ON BUILDINGS AS WATER WILL RUN OFF THE ROOF AND ENTER THE GROUND AT THE SAME RATE, IT IS SIMPLY PREPOSTEROUS AND MUST BE REVOKED BY THE DEPARTMENT.

Grid connection

The grid connection will have no impact on flood risk as the cable will be laid underground and will not cross any watercourses.

THE ABOVE STATEMENT IS AT ODDS WITH OTHER PARTS OF THE ES WHERE REFERENCE IS MADE TO CABLES RUNNING ALONG THE WHAPPSTOWN ROAD TO THE KELLS SUBSTATION. CLEARLY WHOEVER WROTE THE ES HAS NEVER VISITED THE SITE OR LOOKED AT A MAP TO SEE THE OBVIOUS BRIDGE ALONG THE ROAD CLOSE TO NUMBER 14 WHAPPSTOWN ROAD WHICH TRANSVERSES A SIGNIFICANT WATERCOURSE. IF THE ISSUE OF FLOOD RISK IN A WETLANDS AREA WHICH IS KNOWN TO FLOOD IS GOING TO BE TREATED WITH SUCH DISREGARD THEN THE DEPARTMENT MUST SEEK TO THROW OUT THE ES PROVIDED AND REQUEST AN INDEPENDENT SURVEY WHICH IS ROBUST AND UPON WHICH MEASURED DECISIONS CAN BE BASED.

Mitigation Measures

Floodplain

In line with Revised Planning Policy Statement 15 (PPS15), DARD Rivers Agency advises that development of site should be restricted to those parts lying above the estimated 1% AEP flood levels. Therefore development of the site should be designed to avoid the area highlighted as floodplain in Figure 8.2. As the maps are indicative the extent of the floodplain is difficult to establish. Rivers Agency recommends that a minimum working strip of 5m is provided adjacent to any watercourses. This 5m buffer either side of the watercourse has therefore been used in the siting of the panels and will allow for the narrow floodplain to be accommodated. This buffer is considered adequate as the majority of the site is elevated above the level of the watercourse. The substation and inverter stations must avoid flooding and are located on higher ground, outside of the floodplains.

BY THIS VERY STATEMENT THE AGENT ACKNOWLEDGES THAT THERE WILL BE FLOODING.

As a general standard in Northern Ireland for sites where there is potential for fluvial flooding, DARD Rivers Agency recommend a Finished Floor Level in all new developments be above the 1% AEP flood level, plus a freeboard of 600mm. As the 1% AEP level is unknown it is not possible to establish this development level, but by locating the buildings on elevated land outside of the floodplain this requirement will be met.

BY THIS VERY STATEMENT THE AGENT ACKNOWLEDGES THAT THERE WILL BE FLOODING.

Flooding will not cause any damage to the photovoltaic panels unless the water is above the bottom of the panels, which will be at least 800mm above ground level. Water levels of this depth are unlikely to occur given that the watercourses throughout the site are very small and are unlikely to have the flows to create this depth of flood.

THE AGENT TOTALLY IGNORES THE FLASH FLOODING THAT WILL OCCUR AS RAINFADD DISCHARGES FROM 39 HECTARES OF GLASS

THE ES MAKES MORE REFERENCE TO THE LOCATION OF SOLAR PANELS AND BUFFER ZONES TO AVOID DAMAGE TO EQUIPMENT RELATING TO THE APPLICATION, BUT DOES NOT REFER TO THE DAMAGE, WHICH MAY BE CAUSED TO RESIDENTIAL PROPERTY, LAND AND BUSINESSES AS A RESULT OF THE APPLICATION. THIS IS CLEAR BIAS AND MUST BE RECOGNISED BY THE DEPARTMENT AS SUCH. THE MAPS PROVIDED THROUGH THE ES ARE SO POOR THAT FEW DETAILS CAN BE DERIVED AND THEY HAVEN'T EVEN TAKEN THE EFFORT TO PROVIDE MAPS OR SURVEYS OF WATERCOURSES NOT UNDER CONTROL OF RIVERS AGENCY.

Surface Water Runoff

Surface water flooding occurs when the ground is unable to absorb the rainwater, causing it to flow over the surface and fill depressions and low spots in the landscape where the local natural and engineered drainage systems are overwhelmed.

Limited areas for potential flooding from surface runoff have been identified in the site (see Figure 8.3). It is possible to site the PV panels in these areas as surface water flooding up to a depth of 800mm will not cause any damage to the panels. The substation and inverter stations have not been located in areas at risk from surface water flooding.

THE AGENT TOTALLY IGNORES THE FLASH FLOODING THAT WILL OCCUR AS RAINFALL DISCHARGES FROM 39 HECTARES OF GLASS THE ES MAKES MORE REFERENCE TO THE LOCATION OF SOLAR PANELS AND BUFFER ZONES TO AVOID DAMAGE TO EQUIPMENT RELATING TO THE APPLICATION, BUT DOES NOT REFER TO THE DAMAGE, WHICH MAY BE CAUSED TO RESIDENTIAL PROPERTY, LAND AND BUSINESSES AS A RESULT OF THE APPLICATION. THIS IS CLEAR BIAS AND MUST BE RECOGNISED BY THE DEPARTMENT AS SUCH. THE MAPS PROVIDED THROUGH THE ES ARE SO POOR THAT FEW DETAILS CAN BE DERIVED AND THEY HAVEN'T EVEN TAKEN THE EFFORT TO PROVIDE MAPS OR SURVEYS OF WATERCOURSES NOT UNDER CONTROL OF RIVERS AGENCY.

As described in Section 8.5.3, the site will not significantly increase the rate of runoff from the current rates and therefore no further mitigation measures are proposed.

THE ABOVE CLAIM IS COMPLETELY PREPOSTEROUS, SURFACE WATER RUN-OFF WILL INCREASE IN THE SAME WAY AS IT DOES ON THE ROOF OF A HOUSE, WATER WILL SHEET OFF THE PANELS CREATING INCREASED SURFACE WATER RUN-OFF.

Compliance with Planning Policy Statement 15

The Revised Planning Policy Statement, PPS 15 'Planning and Flood Risk' was published in September 2014. In line with the requirements of the revised PPS 15, RPS have considered all possible sources of flooding and have taken a conservative approach in establishing the flood risk to the application site.

IS THIS INFORMATION CONTAINED ELSEWHERE AS IT HAS NOT BEEN FULLY CONSIDERED AS PART OF THIS SECTION OF THE ES? THE IMPLICATIONS AND FLOOD RISK NEEDS TO BE CONSIDERED BEYOND THE BOUNDARY OF THE SITE.

THE AGENT HAS GIVEN NO CONSIDERATION WHATSOEVER TO FLASH FLOODING AS RAINFALL DISCHARGES FROM 39 HACTRES OF GLASS.

IT IS ALSO EXTREMELY POOR THAT A SECTION OF AN ES DEALING WITH FLOOD RISK MAKES NO REFERENCE TO PRECIPITATION TYPES OR LEVELS OVER THE COURSE OF A NUMBER OF YEARS AND THE RESULTING FLOODING THAT OCCURRED. THE DEPARTMENT REALLY MUST UNDERTAKE AN IMPARTIAL AND ROBUST SURVEY EXAMINING ALL ASPECTS OF FLOOD RISK AS KELLS VOCAL DO NOT ACCEPT WHAT HAS BEEN PRODUCED AS ACCURATE, IMPARTIAL OR CONSIDERED OF ALL THE ISSUES.

Policy FLD 1 Development in fluvial and coastal flood plains

PPS 15 defines a fluvial flood plain as the extent of a flood event with a 1% annual probability of exceeding the peak floodwater level, and by this definition small areas of the site are affected by the floodplain of the unnamed watercourse (areas to the east of Whappstown Road) as shown in the Indicative Flood Map (NI). A 5m buffer will be maintained either side of the watercourses, and the panels themselves are at least 800mm off the ground in these areas. Both of these measures should ensure the risk of flooding to the panels is minimised. The substation and inverter stations will be located on higher ground. Therefore it is the opinion of RPS that the solar farm development is compliant with the standards of FLD1.

THE INDICATIVE FLOOD MAP IS NOT CONSIDERED OF INCREASE PRESSURE ON WATERCOURSES AS A RESULT OF THE INTRODUCTION OF OVER 200,000 SOLAR PANELS ACROSS 250 ACRES OF COUNTRYSIDE.

Policy FLD 2 Protection of Flood Defences and Drainage Infrastructure

Policy FLD2 states that development will not be permitted that would impede the operational effectiveness of flood defence and drainage infrastructure. There are no defences associated with the watercourses in the area. Where a new development is located beside a watercourse it is essential that an adjacent working strip is retained to facilitate future maintenance by Rivers Agency or other statutory undertaker or riparian landowner. Rivers Agency recommends that a minimum working strip of 5m is provided. Therefore a working strip of 5m will be provided along all watercourses within the site, and nothing in connection with the development will be constructed within these strips.

WHAT BASIS HAS THE STATEMENT BEEN MADE “THERE ARE NO DEFENCES ASSOCIATED WITH THE WATERCOURSES IN THE AREA”, THERE IS NO EVIDENCE OF ANY CONSULTATION WITH RIPARIAN LANDOWNERS. SEVERAL MEMBERS OF KELLSVOCAL HAVE AFFECTED RIVERS RUNNING THROUGH THEIR PROPERTIES. NONE OF OUR MEMBERS WERE CONSULTED. ONLY RIVERS AGENCY HAVE BEEN CONSULTED WITH AND BASED ON THE INFORMATION PROVIDED IN THIS SECTION, RIVERS AGENCY SIMPLY CONFIRMED THAT THEY WERE NOT RESPONSIBLE FOR MAINTENANCE OF WATER COURSES WITHIN THE SITE.

PolicyFLD3 Development and surface water flood risk outside flood plains

The Indicative Flood Map (NI) shows limited areas of the site that may be potentially affected by flooding from surface water runoff. These areas can be used to site solar panels on, but the substation and inverter stations will avoid these areas.

YET AGAIN AN ADMISSION THAT AREAS MAY BE AFFECTED BY FLOODING. THIS CONSIDERS LAND USE AS IT IS NOW, NOT WITH THE ADDITION OF 200,000 SOLAR PANELS AND AS SUCH CANNOT BE USED BY THE APPLICANT TO CLAIM RUN OFF LEVELS AFTER THE INSTALLATION OF THE PROPOSED DEVELOPMENT. THE DEPARTMENT MUST UNDERTAKE AN INDEPENDENT ASSESSMENT.

The development of the site must not increase the risk of flooding elsewhere. As has been shown the proposals for the site will not increase the rate of discharge from the current pre-development run-off rates. There will be no storm water system installed as part of the development, so no discharge consents are required.

THE CLAIM IN RESPECT OF RUN-OFF HAS ALREADY BEEN REBUTTED AS A TOTALLY SPURIOUS CLAIM

Therefore it is the opinion of RPS that the solar farm development is compliant with the standards of FLD3.

Policy FLD 4 Artificial Modification of Watercourses

Policy FLD4 is concerned with the artificial modification of watercourses. The project will not alter any watercourses, and therefore Policy FLD4 is not applicable to this project.

Policy FLD 5 Development in Proximity to Reservoirs

Policy FLD5 is concerned with inundation from reservoirs. There are no reservoirs close to the proposed development that could provide a risk of potential flood inundation. Therefore Policy FLD5 is not applicable to this project.

Residual Impacts

With any development adjacent to a watercourse, there is always a residual flood risk as the required standard of protection can be exceeded. However, the mitigation measures afforded to the proposed development will reduce the likelihood of such an occurrence and any residual flood risk can be considered as low.

WHAT MITIGATION MEASURES? NONE HAVE BEEN OFFERED, ONLY SPURIOUS CLAIMS THAT THERE WILL BE NO IMPACT.

Cumulative Impacts

As per Section 5.2 of this ES, a review of planning applications within 5km of the site took place to identify relevant approved and proposed planning applications as well as relevant existing developments within 5km. Cumulative impacts in this instance are defined as the additional changes caused by a proposed development in conjunction with other developments or as the potential combined effects of more than one development. There will be no cumulative impact in respect of flood risk and drainage.

Conclusion

*The proposed development site is affected by **small watercourses**, most of which are not included in the Indicative Flood Map (NI). The Indicative Flood Map (NI) does show that a small section of the site may be affected by the floodplain of an unnamed watercourse. A 5m buffer along the watercourses and the panels being above the ground by 800mm will minimise the flood risk in order to comply with Policy FLD1 of PPS15.*

The Indicative Flood Map (NI) shows that limited areas of the site may be affected by surface water flooding, particularly along the unnamed watercourse. Whilst it is possible to site the solar panels in these areas, they will be avoided for siting of the substation and inverter stations. As has been shown the proposals for the site will not increase the rate of discharge from the current pre-development run-off rates, and no formal drainage systems will be installed. Therefore the development complies with Policy FLD3 of PPS15.

It is the opinion of RPS that provided the areas identified are not used to site solar panels then the development is at a low risk of flooding, and will not increase flooding elsewhere.

The siting of the panels is the risk. The hazard is the run-off from 39 hectares of glass causing extensive flooding. The agent acknowledged that flooding will occur. The agent has done nothing whatsoever to address the danger of flooding on the site of a proposed power station.

Many solar panels contain chemicals, which could cause damage to the local environment and possibly public health. Arsenic, cadmium telluride, hexafluoroethane, lead, and polyvinyl fluoride could cause untold devastation should they explode when submerged and leach into the water supply. Silicon tetrachloride renders crops infertile, causes skin burns and increases the likelihood of lung disease, and transforms into acids and poisonous hydrogen chloride gas when exposed to air. What will happen if these panels explode?

Cadmium may be carcinogenic; exposure affects the lungs and kidneys and can be fatal. It is gene toxic and a mutagen, so it has the ability to affect DNA, meaning it could affect reproduction and future generations' DNA. Cadmium is technically banned by the European Union's restriction on hazardous substances directive, although the policy



currently allows an exemption for its use in solar modules.

www.theguardian.com/environment.../03solar

www.cleantechnica.com>2014/05/01>solar

USING THE PRECAUTIONARY PRINCIPLE THIS APPLICATION MUST BE REFUSED BECAUSE THE ISSUR AND DANGERS CAUSED BY FLOODING COULD BE DEVASTATING.

KellsVOCAL's Response to Section 9

Archaeology and Cultural Heritage Section of ES

Having read and considered the Archaeology and Cultural Heritage impact assessment, KellsVOCAL has five objections which it considers to render this document unfit for purpose.

1. The entire document lacks clarity, depth, accuracy and basic information
2. There is no evidence that the desk-top assessment and site walk-over were completed for the entire site and thus, no evidence that the Archaeology and Cultural Heritage impact assessment has been properly completed.
3. The whole document refers to a site layout plan that is NOT the one submitted with the planning application.

The information throughout the document regarding the location of archaeological features ANT 38:35 and ANT 38:46 is incorrect and misleading.

4. The Archaeology and Cultural Heritage assessment has no cultural heritage content
5. The archaeology and cultural heritage impact regarding the Rath site is inadequate and does not protect the integrity of this historic feature.

1. The entire document lacks clarity, depth, accuracy and basic information.

'This archaeological assessment has been compiled by Audrey Gahan and Chris Long'.

RPS provides details of the professional credentials and experience of the two archaeologists who compiled the archaeological assessment. KellsVOCAL notes that Audrey Gahan is cited as an expert in mediaeval ceramics with a particular expertise in large scale **urban** development. Chris Long is cited as having a BSc Hons in Archaeology with Palaeoecology.

'Palaeoecology (also known as environmental archaeology or bioarcheology) is the study of biological remains (e.g. bone, shell, plants, insects, and microfossils) from archaeological sites, with a view to reconstructing elements of living conditions in the past e.g. diet, economy and sanitation'. www.palaeoecology.co

'The purpose of the site inspection was to assess the archaeological potential of surviving sub-surface strata within the proposed development area and to identify any additional sites of archaeological potential not highlighted by the desk survey'.

The document contains no explanation of the methods used or the detailed results for different portions of the site.

Please request that the agent submits details of the method employed to assess the archaeological potential of surviving sub-surface strata within the proposed development area?

In point 9.9 it states:

‘A site inspection was also undertaken to identify any previously unknown or unrecorded upstanding archaeological remains, which may remain within the area of the proposed development’.

Thus, there is reference to a site walk-over to assess the archaeological potential for surviving **sub-surface strata** and there is reference to a site walk-over to identify any **upstanding monuments**.

Please request that the agent submits the following information so that it can be assessed prior to any decision being made:

Was there more than one site visit?

What were the logistical arrangements of a site inspection, carried out by one person, to assess both sub surface strata and upstanding archaeological features across a 235 acre site?

Why was no aerial photography or a geophysical survey carried out for an archaeologically sensitive site, twice the size of the villages of Kells and Connor combined?

RPS states that the impact assessment was undertaken using the planning guidelines as set out in PPS 6, paying particular reference to sections BH1, BH2, BH4, and BH11 but makes no attempt to evidence how they informed the assessment or subsequently guided development plan decisions.

KellsVOCAL **has** given consideration to PPS6 which supports the argument that this is a totally inappropriate location for a solar power station:

BH1, the Preservation of Archaeological Remains of Regional Importance and their Settings, states:

‘The Department will operate a presumption in favour of the physical preservation in situ of archaeological remains of regional importance and their settings’.

Pile driving thousands of metal poles across 235 acres of land would **not** ensure the physical preservation in situ of archaeological remains.

Point 3.8 of BH1 states:

‘Not all important archaeological remains meriting preservation are yet scheduled. The programme of scheduling is ongoing and every effort is made to include a balanced sample of site types throughout Northern Ireland based on criteria set out in Annex B’.

Annex B point B3:

‘The present schedule of some 1,350 sites has been compiled over a period of 72 years, since the introduction of the Ancient Monuments(NI) Act, 1926 and work continues towards protecting a representative sample of all sites. Even so large numbers of known archaeological sites are likely to remain unscheduled, and whether or not they are preserved will depend on the value of the remains, the commitment of owners and the public and the policies of public agencies’.

Thus, BH1 highlights the recognition of the potential for sub-surface artefacts yet to be discovered and a responsibility to protect sites which have yet to be scheduled.

KellsVOCAL believes that this whole area of Co Antrim may be designated as of regional importance at a later date due to a growing recognition of the historical importance of the area. In addition to ANT 38:35 which lies within the development site, ANT38:46 which lies close to the lake (as indicated in the red line drawing) and the archaeological and industrial heritage features described as lying within a 1 km radius of the proposed site, there are also numerous historical features and associations with the wider local area that should have been considered in the course of an **archaeological and cultural heritage** survey. These are detailed in Appendix 9

There is a wealth of ancient and modern historical features; geological and topographical features; medieval and World War 11 memorials; intangible features such as religious and political associations and links; folklore and dramatic interpretation; aspirations for promotion of the area and future tourism objectives – all closely associated with the area in which the proposed development would be located.

A Solar Power Station, larger than the villages of Kells and Connor combined would have a catastrophic impact on the archaeological and cultural heritage of the entire area. To permit a development of this nature and scale in this location would prejudice the new LDPs for both Borough Councils, by setting a precedent for large scale industrial development in areas in which they may wish to promote historical, cultural and tourism excellence.

BH2, the Protection of Archaeological Remains of Local Importance and their Settings, states

‘While the vast majority of archaeological sites and monuments in Northern Ireland are not scheduled, they are all capable of providing evidence about our past. Many are archaeologically important in the local context or valued by the community and therefore require safeguarding through the planning process.’

With regard to the proposed site NIEA states:

'There are many archaeological sites and monuments recorded within the environs of the application site with a particular focus of settlement activity dating to the early Christian period c. 600 – 1100 AD'. (NIEA - Historic Monuments Unit consultation letter 7/4/2014)

'.....our experience has been that large development sites such as this are rarely archaeologically sterile and given the concentration of known sites and monuments within the immediate area there is a potential for previously unrecorded below ground archaeological remains to be found during ground works for the proposal'. (Taken from NIEAs consultation response letter to the proposed development 7/8/2014)

PPS 6 Planning, Archaeology and the Built heritage 3.2 states:

'Each site or monument has a unique contribution to make. Some are distinctive landmarks, others are scarcely visible except to the trained eye or are no longer visible above ground but survive beneath modern fields and settlement'.

And

*'Archaeological remains are a limited, finite and non-renewable resource, **in many cases highly fragile and vulnerable to damage and destruction.** Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not **needlessly or thoughtlessly damaged or destroyed**'.*

BH4, *Archaeological Mitigation*, states:

'In some cases it will be possible to permit development proposals which affect archaeological remains to proceed provided appropriate archaeological mitigation measures are in place....'

KellsVOCAL find that the applicant has not shown due regard for the archaeological and cultural heritage integrity of this site. In Figure 4.9 Infrastructure Layout November 2014, the Rath and wetlands directly around Mann's Hill were shown to be outside the development site. However, in the final Infrastructure Layout June 2015, submitted with the planning application, arrays have been moved back from both sides of the Whappstown Road due to adverse visual impact. In order to compensate for the loss of this area to solar deployment, the applicant now proposes to erect solar arrays all across an extensive area of archaeological significance and priority habitat, tightly against the lake, wetland and historic Rath at Mann's Hill. The Rath is now **inside** the development site. This is in spite of NIEAs concerns that:

'Environmental effects of particular concern include the potential impact on visual amenity and landscape character resulting from development of an area of land of high amenity value to the north of Whappstown Road that includes the small lake, wetlands and environs'. (Consultation Response 12th August 2014)

Point 9.4.2 of Archaeology Cultural Heritage summarises the survey of Archaeological sites and Monuments within a **1km** radius of the proposed development site and refers the reader to Appendix 9.1 for details.

Point 9.4.3 summarises the Industrial Heritage sites within a **1 km** radius of the proposed development and refers the reader to Appendix 9.2 for details.

However, Appendix 9.1 is entitled 'Archaeological Sites and Monuments located **2km** of the proposed development'.

Likewise Appendix 9.2 is entitled 'Industrial heritage sites within **2 km** of proposed development'.

This is another example of the confusing information that characterises this document.

Please request that the agent submits details the following information so that it can be assessed prior to any decision being made:

Were assessment surveys carried within a 1 km or a 2km radius of the proposed development?

If it is a 1 km radius, why was this reduced from the 2 km radius of the pre-application Archaeological Assessment?

2. There is no evidence that the desk-top assessment and site walk-over were carried out for the entire site and thus no evidence that the Archaeology and Cultural Heritage impact assessment was properly completed.

9.3 The development site:

'The Whappstown site may be accessed via a farm lane extending NW from the Whappstown Road. (Figure 9.2). This site is a mixture of improved and rough pasture set within an undulating landscape. The area of rough pasture is primarily located towards the central S boundary, around a small lake, which is outside of the development area. Two recorded archaeological sites (ANT 38:35 and ANT 38:46) are located close to the lake but remain outside the site boundary'.

From this it is evident that the development site is considered to lie solely to the NW of the Whappstown Road. The development site described does not include the second Graham land parcel to the East of the Whappstown Road.

KellsVOCAL is of the opinion that the information submitted in this Archaeology and Cultural Heritage document is, very largely, taken from the original pre-application Archaeological Assessment compiled by Gahan and Long, received by the Planning Office 10th March 2014, based on the three land portions under consideration at that time i.e. before the Graham land parcel to the east of the Whappstown Road was added in.

'The area of proposed development consists of three distinct areas at Whappstown, Woodburn lands and Tildarg Road'. (Point 5 of pre-app archaeological assessment)

Figure 1 - Location of Three Areas – which accompanied the pre-application assessment, shows clearly that the only Graham land parcel at that time was located on the west of the Whappstown Road. The other two land parcels, Woodburn land and Tildarg Rd area, are both located at some distance away on the NE of the Speerstown Road.

It appears that the information submitted within the ES as The Archaeology and Cultural Heritage impact assessment is based on the pre-application Archaeological Assessment which was completed before the second Graham land parcel to the east of Whappstown Road was added on. It was only after the pre-application archaeological assessment had been submitted to the Planning Office that the applicant decided to exclude the Woodburn and Tildarg land parcels from the development and to include a second Graham land parcel to the east of the Whappstown Road.

Due to the fact that the text of the archaeology survey in the pre-application is almost identical to the text of the Archaeology and Cultural Heritage assessment, it appears that the information from the original survey has been, largely, reproduced minus the information on the Woodburn and Tildarg lands.

KellsVOCAL thinks it unlikely that a new survey was undertaken and finds no evidence in the document that it was.

This view is strengthened by the absence of any information, within the Archaeology and Cultural Heritage impact assessment, about a second Graham land parcel having been added in since the original survey was carried out, or any reference to an additional archaeological survey having being completed for this second area of Graham land. There is no information, such as the date of an additional survey or site walk-over or summary of the findings that would suggest that an additional survey was undertaken, whereas in the pre-application assessment it did provide details such as:

“An inspection of the proposed development was undertaken by a fully qualified archaeologist on Friday 2nd August 2013. The area of development consists of three distinct areas, at Whappstown Road, Woodburn Lands and Tildarg Road.”

KellsVOCAL also notes that one person completed a site walk-over of a total of 232 hectares (**573 acres**) in **one day** for the pre-application survey and question the thoroughness and depth of such an inspection. Particularly in the light of the comments made by NIEA in its consultation response 7/8/2014:

“.....our experience has been that large development sites such as this are rarely archaeologically sterile and given the concentration of known sites and monuments within the immediate area there is a potential for previously unrecorded below ground archaeological remains to be found during ground works for the proposal.”

And

“There are many archaeological sites and monuments recorded within the environs of the application site with a particular focus of settlement activity dating to the early Christian period c. 600 – 1100 AD”. (NIEA - Historic Monuments Unit consultation letter 7/4/2014)

Given NIEA's appraisal of the prevalence of archaeological sites and monuments in the environs it is essential to ascertain whether an impact assessment and site walk-over was conducted for the full development site i.e. that included the additional survey and site walk-over details for the additional Graham land parcel.

Please request that the agent submits the following information so that it can be assessed prior to any decision being made.

A copy of the Archaeology and Cultural Heritage assessment that would have had to been carried out for the additional Graham land parcel to the east of the Whappstown Road, to include date and details of the site walk over and the name of the qualified archaeologist/s who carried out these procedures.

In the event that these were not carried out, the Archaeology and Cultural Heritage impact assessment should be deemed invalid and this planning application should be refused.

3. The whole of the Archaeology and Cultural Heritage document refers to a site layout plan that is NOT the one submitted with the planning application.

The information throughout the document regarding the location of archaeological features ANT 38:35 and ANT 38:46 is incorrect and misleading.

Point 9.5

'A consultation response was received from NIEA – HMU following the submission of the scoping document. A copy of this response is attached at Appendix 3.1. NIEA accept the information contained within the scoping document requesting minor alterations as a result of the change in the red line boundary from the original designated layout to that currently under consideration'.

As the Archaeology and Cultural Heritage document is dated June 2015 and has been submitted to Planning Service as part of the completed ES, the inference is that the layout 'currently under consideration' would be the final preferred Figure 4.10 Infrastructure Layout presented to DOE June 2015 included in the Alternatives Section of the ES.

However, Appendix 3.1 is a letter from NIEA: Historic Monuments Unit dated 7th April 2014. A copy of the same letter was resubmitted by NIEA: HMU dated 7th August 2014.

"Consequently, if Planning Service decides that an Environmental Statement is to be submitted then NIEA: Historic Monuments Unit would require an archaeological section within it. NIEA: HMU consider that the Archaeological Assessment – preliminary report uploaded onto epic on 11th March 2014 would be suitable for inclusion within an EIA if Planning Service deems that one is necessary. However amendments would be required within the report to reflect changes to the proposed scheme.

These changes would include new layout plan shows the application area amended to exclude monuments ANT 38:346 and ANT 38:35 which are shown within the limits of the proposal in Figure 2 of the Archaeological Assessment. This change would also need to be reflected within the proposed mitigation measures within section 7 of the report which references the monuments. The recommendation within this section for archaeological monitoring of the site would remain as necessary”.

The original Appendix 3.1 letter from NIEA: HMU was written over a year before Elgin arrived at its final preferred site plan and thus the new layout plan it refers cannot be Figure 4.10 June 2015.

The new layout plan that NIEA: HMU refers to and that RPS refers to as ‘currently under consideration’ is then presumably Layout infrastructure 4.9 November 2014 in which the two archaeological features lie **outside** the site boundary. This conclusion is reinforced by the information in Point 9.3 earlier in the document:

*“Two recorded archaeological features (ANT 38:35 and Ant 38:46) are located close to the lake but remain **outside** of the site boundary”.*

This appears to be the change that NIEA: HMU refer to in the following statement 7/4/2014 where they comment on changes made to the original map Figure 2 of the pre-application Archaeological Assessment submitted before the decision was made that an EIA was required. The original map Figure 2 shows clearly that the features Ant 38:5 and Ant 38:46 were **within** the development site at that time. The original site plan was subsequently redrawn by Elgin so that these two archaeological features would lie outside the development site. This site layout, Figure 4.9 Infrastructure Layout November 2014 was thus the one referred to as “that currently under consideration” in Point 9.5 of the Archaeology and Cultural Heritage section of the ES.

Point 9.3 states:

*“Two recorded archaeological features 9Ant 38:35 and Ant 38:46 are located close to the lake but remain **outside** of the site boundary”.*

Point 9.6 states:

*“While no known monuments were identified within the development area, two archaeological sites, Ant 38:35 and Ant 38:46 were identified **adjacent** to the development boundary”.*

KellsVOCAL finds that RPS cannot be referring, in Points 9.3, 9.5 or 9.6 of the Archaeology and Cultural Heritage impact assessment, to the final preferred site layout illustrated in Figure 4.10 Infrastructure Layout presented to DOE June 2015, because it now **includes** ANT 38.35 and ANT 38:46 in the development site (as indicted in the red line drawing) (See also map Figure 9.2 of Archaeology and Cultural Heritage section of ES). ANT 38.35 (Rath) is now tightly surrounded by solar arrays and Ant 38.46 (Earthworks) is enclosed between solar arrays and the edge of the lake. Both clearly lie within the red line drawing of the development site. (Appendix 1.1 of Introduction, included in Volume 11 Appendices)

The whole of the Archaeology and Cultural Heritage impact assessment appears to have been written before the final site layout was arrived at. It contains no reference to Figure 4.10 - Infrastructure Layout June 2015, submitted with the planning application. As a result, much of the information in it is incorrect, confusing and misleading, in the light of the redrawn site.

The Archaeology and Cultural Heritage document repeatedly claims that the two archaeological features ANT 38:35 and ANT 38:46 lie outside the site boundary as evidenced in the following:

Point 9.3 states:

*“Two recorded archaeological features (Ant 38:35 and 38:46) are located close to the lake but remain **outside** the site boundary”.*

Point 9.4.2

*‘The desktop survey has indicated that in addition to the two sites located **adjacent** to the development, a further 9 archaeological sites are located within a 1km study radius of the solar farm limits’*

Point 9.6

*‘ while no known monuments were identified within the development area, two archaeological sites ANT 38:35 and ANT 38:46, were identified **adjacent** to the development boundary’.*

9.8

*‘The desk-top survey has established that while **no known archaeological sites are identified within the area of development**, the proposed solar farm is located within an area of archaeological sensitivity’.*

9.9

*‘The desk-top survey and site inspection have determined that, while two archaeological monuments are recorded **adjacent** to the development boundaries, they will not be adversely impacted’.*

However, Figure 9.2 – Archaeological sites adjacent to the boundary, shows the Rath at Mann’s Hill is clearly **within** the boundary.

The statements in Points 9.3, 9.4.2, 9.6, 9.8 and 9.9 are therefore incorrect.

The site plan ‘Figure 4.10 - Infrastructure Layout presented to DOE June 2015 - which was submitted with the application also shows clearly that the applicant has changed the site plan dramatically from Figure 4.9 Infrastructure Layout November 2014, to include the Rath ANT 38:35 inside the area of solar deployment. ANT 38:46 lies beside the lake and would also be inside the development area as it and the lake would now be tightly encompassed by solar arrays and both lie within the red line drawing for the site (Appendix 1.1 of Introduction - Volume 11 Appendices). The site was redrawn when the applicant was required to remove solar arrays back from the edges of Whappstown road due to unacceptable visual impact and loss of both visual and residential amenity.

“Further focused environmental surveys helped to identify locations within the larger land holding which were more sensitive to development.

In accordance with their robust approach and commitment to environmental excellence Elgin excluded these areas from development. The site layout brought forward to the public consultation event on 11th November 2014 is included below in Figure 4.9’. Reference 4.7 of Alternatives section of ES

And

“The illustrated areas to the west of Whappstown Road surrounding the existing pond (Insert Box point B- Figure 4.9 below), as well as an area of species rich marshy grassland to the extreme northwest of the development site (Insert Box Point C – Figure 4.9 below) which it was decided to exclude from the application site boundaries”. (See Alternatives Section 4.7 of ES –figure 4.9 Infrastructure layout November 2014)

The applicant has subsequently performed an environmental U-turn and parted ways from its ‘commitment to environmental excellence’ by taking in the sensitive areas around the lake and Rath in such an **environmentally insensitive** manner that their solar arrays would now be deployed across the species rich habitat close to the lake and tight around the archaeologically sensitive Rath and Earthworks.

KellsVOCAL finds that the information regarding the location of ANT 38:35 and ANT 38:46 is incorrect throughout the document because it states that they lie outside the development area. This illustrates how the entire Archaeology and Cultural Heritage impact assessment has failed to correctly inform that it does not reference the submitted site plan Figure 4.10 Infrastructure layout June 2015.

The whole of the Archaeology and Cultural Heritage impact assessment appears to have been written before the final site layout was arrived at. It clearly makes no reference to Figure 4.10 Infrastructure Layout June 2015, submitted with the planning application. As a result, much of the information in it is incorrect, confusing and misleading, in the light of the redrawn site.

Please request that the agent provides answers to the following questions so that the information can be assessed prior to any decision being made:

Why is there no reference, in the Archaeology and Cultural Heritage impact assessment, to the site plan submitted with the planning application - Figure 4.10 Layout Infrastructure submitted to DOE June 2015?

Why does the Archaeology and Cultural heritage impact assessment repeatedly state that ANT 38:35 and ANT 38:45 lie outside the development site when map Figure 9.2 - Archaeology Sites- June 2015 in section of 9 of the ES shows clearly that they are inside the development site?

KellsVOCAL notes that the Archaeology Sites Map, Figure 9.2 is misleading because the red line indicating the site boundary has simply been omitted along the southern edge of the lake where the site adjoins the neighbouring farmer's land. This gives the impression that the lake area is outside the proposed development, whereas it is clearly within the control of the applicant and located within the red line drawing of the development site. (Appendix 1.1 of Introduction, included in Volume 11 Appendices)

KellsVOCAL objects that these are such serious and glaring mistakes that they render the document unfit for use.

4. KellsVOCAL finds the Archaeology and Cultural heritage unreliable because it does not have a Cultural Heritage content.

Section 9 of the ES is entitled Archaeology and Cultural Heritage. From this one would assume that RPS, and more surprisingly, Gahan and Long would demonstrate an understanding of what is meant by cultural heritage and would have not then have gone on to produce a document where the term 'cultural heritage' appear only once within the text.

Definitions of Cultural Heritage can be found in Appendix 9

In the light of the definition of cultural heritage, it is difficult to know how RPS and , presumably, Gahan and Long, have reached the conclusion that no cultural heritage features are identified within the area of development without providing any evidence of an investigation having actually been carried out . The ES contains only one sentence that refers to cultural heritage:

"A review of all known cultural heritage assets was undertaken as part of this assessment." (Point 9.6)

This statement begs the question 'Where is the review?' It does not appear anywhere in the ES. There is no explanation of what the known cultural heritage features are or what kind of cultural heritage features Gahan and Long may have been looking for or might reasonably have expected to find in that particular location. It does not state which investigation methods or assessment tools were used in order to identify such features in order to assess the impact of the development upon them. It does not even say whether or not it found any cultural heritage features although, in the D&AS, RPS manages to construe, from the total absence of any information in the ES, that:

"Whilst the assessment determined that no such sites are identified within the area of development, the proposed solar farm is located within an area of archaeological sensitivity."

This is incorrect. A Cultural Heritage assessment, with all of its intangible elements, could not have been carried out through a desk-top survey and a site walk-over. Cultural Heritage is not about finding or not finding a monument in a field. It would have involved conversations with the local people who have inherited the cultural heritage of the area, who are creating it during their lifetimes, and who will pass it on to future generations. It would also have required, for example, a knowledge and consideration of local history and traditions concerning the site; the value placed on particular elements and features of the landscape; the history of occupancy for the birds and animals associated with the site.

The minutes of the meeting with Strategic Planning Division, 19th May 2015, state that Mr. McKernan (RPS):

‘continued to present some information on the structure of the Environmental Statement and the main areas that would be focused on. These included; Flood risk, ecology/ornithology, **archaeology and cultural heritage**, soils and geology, noise, traffic and transport, air quality, water quality, fisheries , land use and human environment.’

In deciding to submit an Archaeology and Cultural Heritage impact assessment the applicant clearly acknowledges the wealth of cultural heritage associated with the proposed site and environs. Unfortunately RPS produced an Archaeology and Cultural Heritage document without any cultural heritage content.

KellsVOCAL objects to an Archaeology and Cultural Heritage Impact Assessment that has omitted to include the Cultural Heritage section.

KellsVOCAL objects that the omission of a Cultural Heritage impact assessment from the Archaeology and Cultural Heritage section of the ES renders the document incomplete and unreliable as a means of assessing the impact of the proposed development on the archaeological and cultural heritage of the site.

The Archaeology and Cultural Heritage section of the ES is not fit for purpose and this planning application should therefore be refused.

5. The Archaeological and Cultural Heritage impact assessment regarding the Rath site is inadequate and does not protect the integrity of this historic feature.

One of the archaeologists who compiled the pre-application Archaeological assessment is described as having a BSc Hons in Archaeology with Palaeoecology.

“Palaeoecology (also known as environmental archaeology or bio archaeology) is the study of biological remains (e.g. bone, shell, plants, insects and microfossils) from archaeological sites, with a view to reconstructing elements of living conditions in the past e.g. diet, economy and sanitation.” www.palaeoecology.co .

And

“The branch of ecology that studies the relationship of ancient plants and animals to their environments” (<http://www.thefreedictionary.com/palaeoecology>)

“Raths are a type of ringfort, a circular enclosure usually delimited by a single earthen bank (univallate) with a ditch (or fosse) on the outer edge. Higher status ringforts would be bivallate and rarely trivallate. The mean internal diameter for ringforts as a whole is ca.30 m. The encircling bank would have been supported by a fence but there is also evidence that some banks may have been set (planted) with blackthorn and hawthorn”

*“Raths are earthen-banked circular enclosures. They are the most numerous historic monuments in the landscape. **Many have associated woody vegetation which might act as a historic source of woody species diversity.**”*

The bank and ditch was used as the Rath enclosure and also for the farm boundary. Many of these bank and ditch permanent boundaries would have accumulated woody species over time thus forming hedges. Those that were deliberately planted with species such as hazel, the coppicing of which would produce highly valued rods for fence and building construction, or ash for tools, would also take the form of hedges although not defined as such at the time.”

The above quotations are taken from ‘The Woody Species Diversity of Hedges in Relation to Environment, landscape, History, management and Structure in Northern Ireland – Thomas McCann BSC (Hons) Biology and Ecology – Faculty of Life Sciences of the University of Ulster. www.doeni.gov.uk/niea/t

In the light of the above information it is unfortunate that more consideration was not given, in the Archaeology and Cultural Heritage impact assessment, to the area in which the Rath is situated beside the lake at Mann’s Hill. There is no reference of any study of the potential for a ‘historic source off woody species diversity’ at and around the Rath site. Could it be that that some of the trees and shrubs around the lake carry a genetic biological link to ancient specimens and grow there as a direct result of our ancestors having planted them? One would have thought that this site would have been of particular interest to a palaeoecologist.

Is there then a real danger of this development destroying for all time evidence of historic woody species?

The Rath is clearly identified as being within the development in Figure 9.2.

Please request the agent to clarify why a full assessment of the Rath site was not undertaken so that this information can be assessed prior to any decision being made.

It is not clear, to a layperson trying to make sense of the series of changing site layouts within the ES, exactly how close to the Rath site the applicant proposes to place solar panels.

Please request that the agent submits detailed information (with reference to Figure 4.10, Infrastructure Layout June 2015) of the exact dimensions of the area of land that would be left clear around the entire Rath site i.e. to include protection of the bank and outer ditch/ ditches

Please advise also of the **independent** information that the Department will use to inform its decision making regarding adequate protection of the entire Rath site given that “the mean **internal** diameter for ringforts as a whole is ca. 30 metres” and given that this does not take account of the additional dimensions of the bank, ditch or multiple ditches that may be evidenced above and below ground.

KellsVOCAL finds no evidence in the ES that the Archaeology and Cultural Heritage Impact assessment investigation contains any study of the woody species of the Rath site. One might reasonably have expected that this site would have been of particular interest to a palaeoecologist.

In addition, there is no evidence of an attempt to assess the internal diameter of the Rath or the diameter of the outer ditch described in the original pre-application survey carried out by Gahan and Long (Archaeological Baseline Point 6.1:) – **measurements which would surely have been necessary to work out how far back from the Rath site solar arrays would need to be placed, in order to ensure adequate protection of an ancient site.**

In Section 6 - Archaeological Baseline of the pre-application survey it states that:

‘All that is recorded as remaining at that time (1990s) is an arc of a scarp 1.8m high from SE-E-SW enclosed by the disturbed traces of an outer ditch’.

‘The site was inspected as part of the site inspection for this project and no evidence for this Rath can be found’.

It is incorrect to say that no evidence of this Rath can be found. There is daily visual evidence of the Rath as one looks across to Mann’s Hill. Local people refer to “the Rath at Mann’s Hill” in conversation. It is part of our cultural heritage.

Even to the untrained eye there is a clear perception, from locations outside the site, that this is an ancient Rath site with an acknowledgement of where the Rath house might have sat and where the outer ditch would have run around the base of the sloped bank. Evidence also remains of the probable location of some of the hedges and trees associated with the site.

As it is highly likely that there is a wealth of early Christian artefacts concealed below ground across the whole of the Rath area, the Department must ensure that Elgin’s development would not encroach upon it. (Refer, for example, to the excavation of Lissue Rath outside Lisburn Co. Down:

‘Dr. Bersu was a meticulous excavator and even where cultivation had been heavy, he found archaeological remains. He also found that the erosion, and deliberate partial levelling of the bank had, prior to this cultivation, covered the part of the interior just inside the bank with a protective layer of extra soil. This had preserved enough underlying evidence to allow a reconstruction of the history and original appearance of the site.’ www.lisburn.com/books/historical_society/volume6/volume6-4.html

'There are many archaeological sites and monuments recorded within the environs of the application site with a particular focus of settlement activity dating to the early Christian period c. 600 – 1100 AD'. (NIEA - Historic Monuments Unit consultation letter 7/4/2014)

'.....our experience has been that large development sites such as this are rarely archaeologically sterile and given the concentration of known sites and monuments within the immediate area there is a potential for previously unrecorded below ground archaeological remains to be found during ground works for the proposal'. (Taken from NIEAs consultation response letter to the proposed development 7/8/2014)

PPS 6 Planning, Archaeology and the Built Heritage 3.2 states:

'Each site or monument has a unique contribution to make. Some are distinctive landmarks, others are scarcely visible except to the trained eye or are no longer visible above ground but survive beneath modern fields and settlement'.

And

*'Archaeological remains are a limited, finite and non-renewable resource, **in many cases highly fragile and vulnerable to damage and destruction.** Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not **needlessly or thoughtlessly damaged or destroyed**'.*

The presence of archaeologists on site during construction would not prevent the destruction of 'fragile and vulnerable' artefacts caused by the driving of thousands of metal poles into the ground. An archaeologist could not see what damage each pole was doing as it was driven home. As a result, it is vital to ascertain the extent of the area made up by the Rath, bank and ditch so that the entire Rath site can be properly protected.

The Archaeology and Cultural Heritage impact assessment for a solar power station, twice the size of the villages of Kells and Connor combined, located on 250 acres of archaeologically sensitive land, should have included a geophysical survey of the entire site.

'Raths functioned as farmsteads for a single family and their retainers. Circular houses within the raths had the most commonly occurring diameter for early Medieval houses i.e. ca.6m. The entrance of the Rath consisted of an undug causeway across the fosse leading to a gap in the bank protected by a gate. This was usually located in the east to south-east portion to take advantage of wind protection and available sunlight (Stout1997) www.doeni.gov.uk/niea/t

'A typical example of this monument, referred to by archaeologists as a 'ringfort' or 'Rath' would have a single earthen bank with an outer ditch, would be between about 50 and 150 ft. (15 and 50 metres) across internally (from bank crest to bank crest) and would have an internal area averaging ¼ acre'.

www.lisburn.com/books/historical_society/volume6/volume6-4.html

KellsVOCAL has found no evidence in the impact assessment that Gahan and Long made any attempt to estimate the extent of the Rath site that is so sensitive to development. I would suggest that a qualified archaeologist might reasonably be expected to be able to reach an estimation of the extent of the entire Rath site through consideration of the size and circumference of the hill, the 'arc of a scarp, 1.8m high', the impression of the surrounding ditch that has been left in the land and with reference to expert knowledge such as that cited above.

KellsVOCAL can find no evidence that Gahan and Long took any measures to assess the potential “historic source of woody species diversity “ around the Rath site or made any assessment of the internal diameter of the Rath, the diameter of the encircling bank or the diameter of the outer ditch. These measurements regarding the total area of the Rath site would have been required to inform and guide the applicant’s site layout.

This lack of evidence may be because Gahan and Long's initial pre-application survey was not added to in any way when the development site layout was changed, and changed yet again, to be eventually submitted as an Archaeology and Cultural Heritage impact assessment. In which case Gahan and Long may never have been asked to undertake an assessment of the second Graham land parcel or indeed to add on a consideration of cultural heritage. The lack of clarity, confusion and glaring omissions from this document require clarification.

Please request that the agent submits the following information so that it can be assessed prior to any decision being made.

Did Gahan and Long carry out an impact assessment and site walk-over of the second Graham land parcel to the east of the Whappstown Road?

If so, please provide the relevant documentation on the Planning Portal.

Did the applicant commission Gahan and Long to carry out an additional impact assessment and site walk-over, and other necessary measures, specifically related to the impact of the proposed development on Cultural Heritage?

In the absence of this information it must be concluded that the required surveys and site walk- overs did not take place.

KellsVOCAL objects to the applicant’s disregard of this ancient site demonstrated in the site layout that it has submitted in the planning application i.e. Figure 4.10 Layout Infrastructure June 2015.

Point 9.6 illustrates that the applicant is very aware of the potential for sub-surface remains and one of the most likely places for these would be on and around the Rath site:

‘However, the presence of these sites and monuments within the general vicinity of the proposed solar farm and grid connection is a clear indication that the development is located within an area of some archaeological sensitivity. Therefore there is the possibility that previously unidentified remains for which no surface expression now survives and be located within the development boundaries’.

The site plan shows how solar arrays would be packed tightly around the Rath, earthworks, lake and environs at Mann's Hill. Extensive underground cabling and metal supports driven 1.5 metres into this site of archaeological and cultural significance would have a catastrophic impact on any artefacts beneath ground level. There is no way that archaeologists on site could ascertain what might be below each and every pole.

Point 2.2.2 of the Project Description states that:

'In **rare** cases where it is required to safeguard potential archaeological assets frames **can** be mounted using a shallow concrete 'shoe' which sits at a maximum of 400mm above ground level. This option will be employed where constraints are identified by archaeologists employed at **post planning stage** to monitor construction activities as part of an archaeological programme of works proposed which are typically required through applied planning conditions as part of projects of this nature.....**Section 9.6 of this ES has established that while no known archaeological sites are identified within the area of development** , the solar farm is located within an area of some archaeological sensitivity'.

KellsVOCAL notes that the wording of Point 2.2.2 indicates that the applicant will not ensure proper protection of the archaeological features of the proposed development site e.g. the need to safeguard the entire Rath area would not be a '**rare case**' that **can** (i.e. might) be identified at the **post planning stage**. On the contrary, **it would be a very definite requirement that can already be clearly identified at the pre-construction stage**.

KellsVOCAL objects that RPS continues, throughout this document, to state that no archaeological sites are identified within the development is totally unacceptable as Figure 9.2 - Archaeology Sites- June 2015 in section of 9 of the ES shows clearly that the Rath is inside the development site.

In Point 9.4.2 it states:

'Souterrains are underground passages and chambers frequently associated with Rathes.'

When acknowledging the general potential for a souterrain in proximity to a Rath, why does the impact assessment not take into consideration the potential for a souterrain at this specific Rath site which the applicant proposes to impact with solar arrays and metal support poles?

*'Archaeological remains are a limited, finite and non-renewable resource, **in many cases highly fragile and vulnerable to damage and destruction**. Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not **needlessly or thoughtlessly damaged or destroyed**'. (PPS 6 Planning, Archaeology and the Built Heritage 3.2)*

The cabling across the wetland area and environs would also have the potential for adverse impact on archaeological remains, drainage, habitats and species.

'Whether proposals are within designated sites or priority habitats, they have the potential for direct loss of habitat from the footprint of the proposal and associated access roads. Cabling has the potential to create new drainage pathways if present within a wet habitat or peatland. There can also be indirect impacts on sensitive habitat outside the development footprint from construction activities'. (DOE Standing Advice Note 21 Energy generation – Solar Farms, Habitat, page 3)

KellsVOCAL notes a total disregard of the ancient archaeological features ANT 38:35 and ANT 38:46 within the impact assessment. The tight deployment of solar arrays all around the Rath and up against the earthworks, would irretrievably damage below ground remains and remove all perception of historic, cultural and natural heritage. The panoramic view of the Rath and across to the Sperrin Mountains would be drowned in a sea of blue or black glass where there is presently an undulating and varied mosaic of improved pasture, rough pasture, lake and wetland.

Conclusion

As a result of the serious concerns raised in Points 1-5, KellsVOCAL makes the following objection:

The Archaeology and Cultural Heritage section of the ES does not demonstrate the quality, accuracy, transparency or depth of expertise necessary for a reliable assessment of the impact of this development on archaeological and cultural heritage. Consequently this planning application should be refused.

Proposed Solar Power Station, Kells: LA03/2015/0234/F

Section 10 Glint & Glare

We wish to object to application **LA03/2015/0234/F** on the following grounds regarding the glint & glare assessment within the purported ES.

1) The assessment is not truly independent Charlotte Peacock Associates (CPA) were commissioned by the applicant and thus I believe there is a risk that their objectivity may be impaired as they will have been paid by Elgin to undertake their engagement. A fresh assessment should be completed via a party selected by the appropriate Planning Authority.

2) **The assessment carried out is entirely theoretical and provided via a computer model. No practical evidence whatsoever has been provided to support the model's results being reliable or accurate.** An appropriate volume of practical on site testing should be carried out through varying time of a calendar year to verify the accuracy of a significant sample of the results included within the environmental survey.

3) No evidence is provided as to the extent of time CPA actually spent on the site, if any. It is possible the entire assessment may have been carried out from a desktop in England. Applicant should make it clear exactly how much time CPA spent on site to complete their assessment. Any assessor should be conditioned to visit the site during each of the four quarters of a year to undertake physical inspection of matters such as vegetation density prior to completing their assessment.

4) **The computer modelling can only be of a limited accuracy when the applicant has not even specified within the application the exact type of panels they will use including the materials concerned. There is no block plan. There is no topographical survey. The panels are to anything from 2m to 6m apart. The angle of the arrays can be between 25 to 35 degrees.**

The applicant should specify exactly which panels will be used including the materials as material reflectivity is a key element in assessing glint and glare. An independent assessment should then be performed factoring in the precise type of panels and framework which will be used.

5) There is no evidence that the assessment took account of glare from the frameworks which will support the panels. The applicant should specify precisely the framework which will support the panels and the materials concerned, an independent assessment of glare from the framework should then be carried out.

6) The impact of glare will be severe and widespread, section 10.3.1 acknowledges "may be visible beyond this distance (5km)" this is an unacceptable level of visual impact on the landscape. The applicant should provide appropriate mitigation to address this, which they have not as CPA acknowledge glint will be visible from over 5km away.

7) Section 10.3.1 notes the assessment considers the impact on residential and road users. It is not acceptable that the glint and glare assessment fails to take into account the impact on wildlife and livestock. For example no consideration whatsoever is given to the risk of 'polarisation' whereby due to reflection light aquatic insects may mistake the glare of panels for water nor the distress that could be caused to livestock for kilometres around. Bats are known to mistake the glint from solar panels for water and are killed crashing into panels. An appropriate independent assessment of the impact on wildlife and livestock is required.

8) Section 10.5.1 acknowledges that 190 residential properties may experience glint effects. Whilst the assessment suggests the majority of these will be mitigated by vegetation and buildings, no impact has been taken of the fact that vegetation such as trees and hedges will lose leaves in the winter. The risk of glint effects may be far worse than the assessment suggests. The application needs to be revised to consider the season effect of leaves falling off vegetation and as previously specified any assessor must visit the site during each quarter of the year as part of the fieldwork to prepare their assessment.

9) The impact on individual residential properties has not been properly modelled. Section 10.3.1 notes that the receptors "do not include each individual residential property or viewpoint along each road". There is an unacceptable risk individual properties may be much more adversely impacted than the assessment suggests. The assessment needs to be revised to properly calculate the impact on all individual residential properties who may be impacted.

10) The assessment acknowledges a risk that 5 of the selected road points may experience glint effects. Again the report sites that this is mitigated by vegetation but this doesn't take any account of the fact hedges and trees shed leaves in Winter nor that new vegetation to be put in place may take a decade to mature and become effective. Any risk of glint to motorists is not acceptable and needs appropriately mitigated, the applicant has not done this.

11) Section 10.6 notes new hedge banks will be created and existing hedgerows infilled. The assessment fails to provide any detail regarding for example where this will be undertaken, the nature and type of hedges to be planted, the time taken for the hedges to reach maturity noting they will not be fully effective until such time. Furthermore hedges require maintenance to be an effective screen there is no detail regarding this. A full hedge management plan needs to be provided addressing all these issues in detail. Furthermore until mature evergreen hedges are in place in all locations the application should not be approved.

12) No assessment has been made regarding air traffic despite two major airports being in close proximity - Belfast International approximately 10 miles away and Belfast City approximately 20 miles away. As an impacted resident I can assure you air traffic does pass overhead on a regular basis. An independent assessment needs to be performed regarding air traffic. Whereas the airports have stated that they do not have concerns they were not presented with a block plan and a topographical survey on which to base their response.

13) The assessment does not provide for any post construction reviews to be carried out to determine if glint is a problem if the solar power station was ever constructed. The applicant should be conditioned to procure an independent party to carry out quarterly on site practical assessments of glare impacts throughout the life of the project and take immediate corrective action every time any glare is occurring.

14) Given the significance in scale and size of the development I believe any analysis conducted should include wire model analysis. Please confirm the agent has provided proof that wire model analysis has been conducted. In the absence of wire modelling being part of the glint and glare assessment the application should be rejected.

15) The 5km zone of influence used in the assessment is not sufficient given approximately 75% of the land falls within the application falls into Tardree Upland Pastures and due to the topography will be visible further than 5km away. The application should be rejected until such time as an assessment is provided with an appropriately sized zone of influence.

In summary the assessment is not fit for purpose for all the reasons outlined, there is unacceptable risk to both residents, motorists, wildlife and livestock. The application should be rejected for all the reasons noted.

The glint and glare assessment section of the purported ES is not fit for purpose. A public Inquiry must be held so that a full and proper assessment can be made of the potential impacts of this proposal.

Proposed Solar Power Station, Kells: LA03/2015/0234/F

Section 11 Land Use and Human Environment

Having studied Section 11 of the ES in detail, KellsVOCAL finds the numerous inaccuracies, omissions and lack of clarity consistent with the whole of the ES.

Point 11.3 Agricultural Land Classifications (ALC) & Soil Series

'Policy AG1 in a Planning Strategy for Rural Northern Ireland (DOE, 1993) relates to the issue of high quality agricultural land being an important resource. The proposed development takes due recognition of this consideration and details of ALCs are set out in 11.2.3'

RPS then outlines land grades 1-5 and explains that the proposed site is mainly 3B - 'moderate quality agricultural land' while the remainder is 4B – 'poor quality agricultural land'

However, the fact that the proposed site is 3B and 4B land does not mean that it is suitable for a solar power station:

"It is likely that the least productive land for agricultural use (grades 3 and 4) will be targeted for development, raising concerns as these grades are often valuable (or potentially valuable) in nature conservation terms." (Solar Power -RSPB Briefing March 2011)

In the SPPS - Strategic Environmental Assessment (SEA) Scoping Project 2013 it states:

'The focus of government conservation policy is on protecting and managing high-value habitats. Intermediate-value habitats, which contain much of the species diversity in the countryside and provide ecosystem services including food, materials, water, and flood control and carbon storage are unprotected and thus vulnerable to land use change, disturbance and pollution'.

11.2.2 Soil Series Overview

'Current European Union and UK Government policy stresses the importance of the retention of soil as an important natural resource. The EU has started measurements for protecting soil in Europe. In a Communication called "Towards a Thematic Strategy for soil Protection"916/4/2002), the Union outlines the need to conserve and protect the soils of Europe as they come under increasing threat. The Communication identifies agricultural land as being of great importance and its viability must be secured for the future'.

And yet the applicant proposes to deploy solar across an area of peat forming land around the lake at Mann's Hill with no impact assessment of the effect, either of extensive underground cabling on the hydrology of the area or of the impact on flora of a what would effectively be a huge canopy made up of thousands of glass panels.

The applicant is well aware of the nature of this land:

Point 3.1 of Document Control Sheet of the Ecology Scoping Report of the Pre-application states:

*'The inland water body is a 1.5ha (possibly mesotrophic) lake with associated emergent vegetation around its perimeter and fen vegetation surrounding this in the localised depression of the lake. **This habitat can be described as peat forming and is a priority habitat.***

And

Appendix 7.7 – Ecology and Ornithology -Ecological Constraints and Opportunities plan

Point 2.1 – Physical Site Characteristics:

*'Surface Water Humic Gley (approx. 287,500 square metres) is the dominant land type to the northwest of the Whappstown Road. **This soil type is found usually in upland areas, in association with blanket peat** (RPS Soil Survey Report, 2014. Marshy grassland covers much of this part of the site.*

There are serious acknowledged concerns about the adverse environmental impact of underground cables within wet habitat areas.

'Cabling has the potential to create new drainage pathways if present within a wet habitat or peatland. There can also be indirect impacts on sensitive habitat outside the development footprint from construction activities'. (DOE Standing Advice Note 21 Energy generation – Solar Farms, Habitat, page 3)

*'Another impact of an underground cable is the local dehydration of the surrounding soil. That is because of the reduced quality of heat removal in dependency on the soil texture and humidity. The resulting, minimised heat emission impairs the operating safety of the cable, but affects the vegetation cover, fruit ripeness and vegetation period only in the closest environment of the cable. **The specific influences on the microbiology, flora and fauna are still unknown for the most part.***

In case of accident there is an acute risk for the environment by the contamination with hazardous substances, especially for the groundwater'. (Environmental Impacts of Underground Cables)

The applicant also acknowledges that solar arrays will alter the nature of the flora beneath the panels. In the pre-application Document Control Sheet for the Ecology Scoping Report, the applicant states:

‘Vegetation under the PV module will undoubtedly be in shadow for a significant portion of the day, and floristic composition will change over time in response to the new microclimate (less light, more shelter, increased heat)’

The extensive ground shading from solar arrays and the effects on hydrology of underground cables and thousands of metal support poles driven in to a depth of 1.5m (approx. 5ft) will fundamentally alter the hydrology and flora of this peaty land with subsequent adverse impact on the species that occupy the land.

However, no attempt has been made to describe, quantify or assess these changes to vegetation and soil that would occur as a result of 200,000 glass panels across this area of land.

This application is for a Solar Power Station of a magnitude completely new to Northern Ireland. The technology is unknown in Ireland on this scale. The Department simply does not know what impact 250 acres of solar panels will have on the flora or the soil of the site, or on all the species of insects, mammals, amphibians, and birds that occupy the habitat. It is of grave concern that the ES has failed to provide the Department or NIEA or members of the public with a detailed assessment of the impact of the proposed development, not only on this specific area of peat-forming land, but on the mosaic of land parcels across the entire development site.

Point 11.2.3 – Site ALC’s

‘The proposed development area is situated as follows:

The majority of the Kells Solar Farm, approximately 448,040 m² is situated within 3B – Moderate quality agricultural land;

The remainder of the farm, 89,700 m², is situated within 4B – Poor quality agricultural land; ‘

Yet in 11.2.4 – Site Soil Series:

‘The majority of the Kells Solar Farm, approximately 448,040 m², is situated within Surface Water Gley, Class 2 Basalt Till.

A large portion of the remaining area of the farm is situated within Surface Water Humic Gley Basalt Till, approximately 287,500m sq.

In both statements the ‘majority’ of the farm remains constant at 448,040 m². However in the first statement the remainder of the farm is 89,700 m² but in the second statement ‘a large portion of the remaining area of the farm’ is 287,500 – a difference of 197,800 m².

KellsVOCAL requests that the agent clarifies these statements and submits the information to the planning portal.

11.2.4 – Site Soil Series

‘Surface Water Humic Gley Basalt Till – Humic rankers are those where the surface humic horizon is acid and less than 40cm thick. Humic rankers are the second most extensive of the Ranke soil group. They are found usually in upland areas, in association with blanket peat, and are distinctive from other rankers.’

Figure 11.2 in Appendix 11.2 shows the proposed development and underlying Soil Series. It is clear that the whole area, north and east and west of the lake at Mann’s Hill, is in fact composed of Surface Water Humic Grey Basalt Till and an area of active peatland.

RPS is very aware that this is an area of peat land:

Point 3.1 of Document Control Sheet of the Ecology Scoping Report of the Pre-application states:

*‘The inland water body is a 1.5ha (possibly mesotrophic) lake with associated emergent vegetation around its perimeter and fen vegetation surrounding this in the localised depression of the lake. **This habitat can be described as peat forming and is a priority habitat.**’*

And

Appendix 7.7 – Ecology and Ornithology -Ecological Constraints and Opportunities plan

Point 2.1 – Physical Site Characteristics:

*‘Surface Water Humic Gley (approx. 287,500 square metres) is the dominant land type to the northwest of the Whappstown Road. **This soil type is found usually in upland areas, in association with blanket peat** (RPS Soil Survey Report, 2014. Marshy grassland covers much of this part of the site.*

SPPS September 2015 – Point 6.192

‘Planning permission should only be granted for a development proposal which is not likely to result in the unacceptable adverse impact on or damage to known:

Priority habitats

Priority species

Active peatland

Ancient and long established woodland

Features of earth science conservation importance

Features of the landscape which are of major importance for wild flora and fauna

Rare or threatened native species

Wetlands (includes river corridors) or

Other natural heritage features worthy of protection, including trees and woodland'

Mid and East Antrim Local Biodiversity Action Plan states:

“Peatlands, which are associated with some of our most interesting wildlife and are one of the most distinctive features of the Irish landscape, are disappearing.”

And

‘The greatest loss (to biodiversity) is the degradation and loss of habitats’.

RE1 Renewable Energy - Justification and Amplification: Active Peatland states:

‘4.12 Active peatland, comprising blanket and raised bog, i.e. peatland on which peat is currently forming and accumulating, is identified as a priority habitat for Europe in Annex 1 of the EC Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive)

‘4.13 Any development t on active peatland will not be permitted unless it is necessary for reasons of human health, public safety or a beneficial consequence of primary importance to the environment, or to other reasons which in the opinion of the Department, having considered the opinion of the European Commission, are imperative reasons of overriding public interest.’

PPS 18 point 4.7

‘Active peatland sequesters carbon from the atmosphere and stores it over long periods of time.’

And

‘Active peatland, comprising blanket and raised bog, i.e. peatland on which peat is currently forming and accumulating, is identified as a priority habitat for Europe in Annex 1 of the EC Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive)

4.9

In addition, development in peatland involves the risk of a mass of peat or bog movement, resulting in land slide or bog burst. Where development is proposed on peatland, the onus is on the developer to provide comprehensive information identifying existing, potential and construction induced peat landslide hazards.'

There are serious acknowledged concerns about the adverse environmental impact of underground cables within wet habitat areas.

'Cabling has the potential to create new drainage pathways if present within a wet habitat or peatland. There can also be indirect impacts on sensitive habitat outside the development footprint from construction activities'. (DOE Standing Advice Note 21 Energy generation – Solar Farms, Habitat, page 3)

*'Another impact of an underground cable is the local dehydration of the surrounding soil. That is because of the reduced quality of heat removal in dependency on the soil texture and humidity. The resulting, minimised heat emission impairs the operating safety of the cable, but affects the vegetation cover, fruit ripeness and vegetation period only in the closest environment of the cable. **The specific influences on the microbiology, flora and fauna are still unknown for the most part.***

In case of accident there is an acute risk for the environment by the contamination with hazardous substances, especially for the groundwater'.
(Environmental Impacts of Underground Cables)

[www.dir.de/tt/Portaldata/41/...WPO5 Environmental Impacts TRANS Final](http://www.dir.de/tt/Portaldata/41/...WPO5_Environmental_Impacts_TRANS_Final)

This area of Surface Water Humic Gley Basalt Till, associated with blanket peat, according to the 2014 survey carried out by RPS, is Plot 3 - Marshy Grassland, as indicated in ECOP Appendix1, Figure 1 –Management Plots and Habitats, across which the applicant proposes to deploy solar arrays and extensive cabling.

Also within this area is the land referred to as Site C in the Marsh Fritillary Habitat and Larval Web Survey. Site C contained five recorded plots of Devil's Bit Scabious, the largest of which was 1082 m², however the applicant proposes to erect solar arrays across the top of it.

11.3.1 – Methodology

Consideration of potential impacts upon sensitive receptors, relating to noise and air quality have been considered within Chapters 13 and 16 of this ES respectively, and do not form part of this Chapter. Consideration of visual amenity and landscape issues is provided separately in Chapter 6 of this ES.

Having studied Chapters 13, 16 and 6 in depth and having found them to be unreliable and inadequate, KellsVOCAL has made detailed response to each of them elsewhere in the ES rebuttal.

11.3.2.1 – Land Use

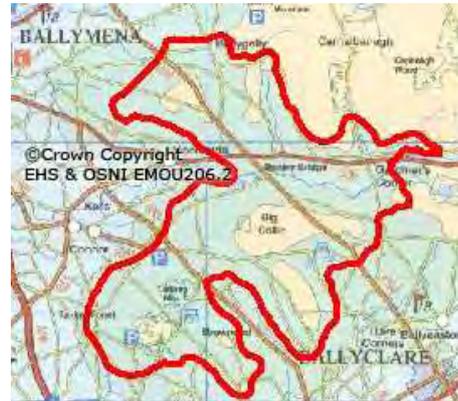
‘Whilst the proposed development site overlaps the Tardree and Six Mile Water Slopes and Tardree Upland Pastures LCAs, it is considered that the landscape character is generally homogenous sharing many of the features relevant to the Tardree and Six Mile water slopes’

Two thirds of the land lies in the Tardree Uplands Pastures where by its definition, the development will be highly visible from distant views - even from as far away as the huge tourist attraction of Slemish Mountain, where thousands of visitors each year climb in a Christian pilgrimage to where St Patrick tended his sheep.

In Section 6 of the ES - Landscape and Visual Impact Assessment, RPS made exactly the same attempt to ‘homogenise’ the two LCAs into the landscape character of the Tardree and Six Mile Water Slopes. KellsVOCAL challenged this attempt in the LVIA response when it stated:

“This is entirely incorrect and is only stated in an attempt to lessen the implications of the development.

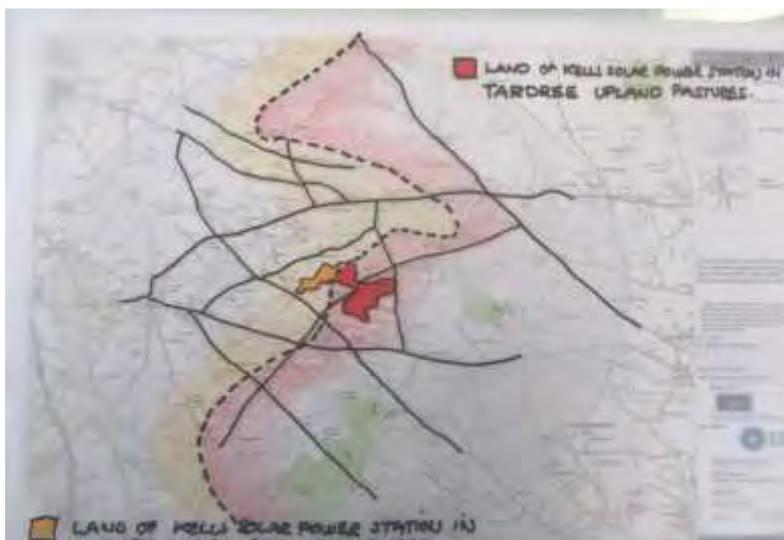
Any development within the Tardree Upland Pastures Landscape is required to be small scale, low visual impact development given the open and remote nature of the natural landscape. Had the agent included the NIEA maps together with a marked up indication of the proposed site, this would be clear to the public and to any assessor - see below NIEA's requirements for each relevant LCA.



Above: NIEA Tardree and Six Mile water Slopes Pastures Landscape

Above: NIEA Tardree Upland Pastures Landscape

Below: NIEA LCA's with proposed site indicated showing two thirds lies within the Tardree Upland Pastures.



11.3.2.1

‘The proposed site does not lie within an area designated as an Area of Outstanding Beauty (AONB). The Antrim Hills and Glens AONB, designated in 1988, is located approximately 7 km east of the proposed site and as such is predicted to experience no effect as a

result of the proposed development and as such is not considered further within this assessment. Residential sensitive receptors are the most frequent type of sensitive receptor found in the immediate area of the proposed development’.

RPS is not correct in its assessment because the site does in fact lie within two LCAs that overlap the Causeway Coast and Glens AONB. The development would straddle the Tardree Upland Pastures LCA and the Tardree and Six Mile Water Slopes LCA (Landscape Character Assessment)

In the Tardree Upland Pastures LCA it states:

“This area lies within the Antrim Plateau and Glens.The Tardree Upland Pastures are found on the broad, rounded summits of upper basalt to the southwest of the Larne Basalt Moorland. This is a transitional landscape, with characteristics of both upland moorland and lowland farmland; the pronounced open valley of the Glenwhirry River is an important local landscape

feature.....The north-eastern fringe of this LCA overlaps the Antrim Coast and Glens AONB. This designation is indicative of the scenic quality of the landscape.”

And

‘Four other character areas – Dervock Farm Lands, Ballymena farmlands, Tardree Upland Pastures and Tardree and Six Mile Water Slopes have small portions within the (Antrim Coast and Glens) AONB boundary’ (Causeway Coast and Glens heritage Trust – management Plan 2008-2018)

Whether by accident or design, the claim that the development site does not sit in an area designated as an AONB, is yet another example of inaccuracy and lack of depth in the ES

This highly scenic area lies within one of the gateways to the Glens. The development site would be clearly visible:

From the A36 which runs through nearby Moorfields and is the road that tourists use travelling to and from Ballymena and the Larne Ferry Port

From aircraft flying into the International Airport

From Slemish Mountain, a heritage site of world importance.

A Solar Power Station of this magnitude, crudely positioned in a Gateway to the Glens, could not fail to impact adversely on the beautiful landscape of the Antrim Hills and Glens AONB.

11.3.3.1 – Demographics - Population

KellsVOCAL notes that RPS provides a strange accumulation of census figures (2011) for the Mid and East Antrim and Antrim and Newtownabbey Local Government Districts. Concentrating on Glenwhirry and Parkgate it gives details about ages, gender, whether individuals were economically active/ inactive or in full-time education.

However there is no explanation whatsoever of the actual significance of any of this information. The reader is left with no idea whatsoever of how it relates to the purpose of this section of the ES which RPS states is:

‘to identify and determine the effects on land use and the human environment as a result of works associated with the construction and operation of the proposed development’ (11.2 - Introduction)

Please request that the agent clarifies the relevance of this information to the proposed development, so that it can be assessed prior to any decision being made.

11.3.4.1 – Local Public Access Areas

‘A review of nearby public amenity areas was conducted to ensure there would be no interference with such designations as a result of the proposed development.’

KellsVOCAL considers that the area, within which the proposed development would sit, is a recognised public amenity of high value for both local residents and visitors to the area.

KellsVOCAL understands that there is a public right away across the site

The visual and recreational amenity of the area is valued by cyclists, ramblers, horse riders, pony trotters, commuters, children travelling to school by bus or car or on foot, dog walkers, families out walking, farmers and other workers, visitors, tourists and the numerous residents for whom the area is quite simply, home.

Although there is no bridle path in the vicinity of the proposed development site, RPS has failed to assess the impact upon the many local horse riders who use the Whappstown Road or upon the equestrian business adjacent to the site.

The British Horse Society (BHS) - Advice on Solar farms advises that:

‘The potential effect of solar farms on horses should be carefully considered on any route used by horses – including byways, bridleways, roads and permissive routes – and on equestrian businesses where horses are kept and trained.’

It is possible, and is likely to be required as part of the planning application, for computer modelling of the glare and sightlines. Analysis of these patterns for potential impact on equestrian businesses should be considered.’

‘Arrays should be avoided where glare is likely to affect users of an equestrian route or an equestrian business.’ www.bhs.org.uk/-/media/BHS

‘High fencing alongside a public right of way could feel claustrophobic, particularly for horse riders.’

‘The British Horse Society has published non-statutory guidance, which recommends a minimum exclusion zone of 200m from a bridleway, restricted byway, byway open to all

traffic or road used by horses'. www.bhs.org.uk/-media/BHS/Files/PDF%20Documents/Access%20leaflets/Wind%20

11.3.5.1 Policy Context.

11.3.5.2 Local Landscape Policy Areas (LLPA)

'LLPAs are designed to help protect the environmental assets within or adjoining settlements. They include:

Archaeological sites and monuments and their surroundings;

Listed and other locally important buildings and their surroundings;

River banks and shore lines and associated public amenities;

Attractive vistas, localised hills and other areas of local amenity importance; and

Areas of local nature conservation importance, including areas of woodland and important tree groups

RPS then goes on to tell us that there are no LLPAs within the site boundary.

At this point in time, the proposed site is not designated as an LLPA, yet it undoubtedly contains all of the environmental assets mentioned above. Each of the features listed such as attractive vistas, areas of local conservation importance, archaeological sites and monuments can be found within the site boundary and require protection, whether or not they have been identified as yet in LLPAs. Mid and East Antrim and Antrim and Newtownabbey Borough Councils are in the process of drawing up their new LDPs and updating the existing LLPAs and public consultation will form part of this process.

Point 5.13 of the SPPS states that:

'LDPs guide the future use of land in their respective areas and inform developers, members of the general public, communities, government, public bodies, representative organisations and other interests of the policy framework that is used to determine development proposals.

'Within the wider context of spatial planning LDPs allocate appropriate land for different types of land use, and set out the main planning requirements to be met in respect of particular zoned sites. They also show particular designations, for example, Conservation areas and areas of Outstanding Natural beauty.'

Point 5.23 of the SPPS states that there must be:

‘A Plan Strategy, which must be prepared for the council area and must set out the council’s objectives in relation to the development and use of land in its district; its strategic policies for the implementation of those objectives; and other relevant matters.

A Local Policies Plan which must be prepared, after the Plan Strategy has been adopted, and must set out the council’s local policies consistent with the Plan Strategy.’

SPPS, Point 5.24

‘The Local Policies Plan will bring forward local site specific designations (e.g. zonings and policy areas) associated policy criteria and key site requirements consistent with the Plan Strategy.’

SPPS, Point 5.25

‘Development Plan Documents (DPDs) will be published, mad subject to public consultation and independent examination and adopted separately and in sequence. This approach allows the Plan Strategy to be published quickly (anticipated within two years). Agreement on the strategic direction at an early stage will secure efficiencies in bringing forward the Local Policies Plan which should be consistent with the Plan Strategy.’

The SPPS states that LLPAs:

‘Consist of those features and areas within and adjoining settlements considered to be of greatest amenity value, landscape quality or local significance and therefore worthy of protection from undesirable or damaging development.’

And

‘LDPs should, where appropriate, designate LLPAs and bring forward local policies and guidance to maintain the intrinsic landscape, environmental value and character of such areas.’

SPPS, Point 5.27 – 5.30 – Engagement and Transparency

‘Public and stakeholder participation at the start of the plan-making process is essential to identifying relevant issues and capturing local views from the outset.’

‘Councils must publish a Statement of Community Involvement (SCI) as a statement of its policy for involving interested parties in the preparation and revision of a LDP.’

*‘The reformed plan-making system provides for the preparation of a **‘Preferred Options Paper’** in order to front-load community and stakeholder involvement.’*

‘The Preferred Options Paper should contain a series of options for dealing with key issues in the plan area, as well as the council’s justification for its proposed approach. Key issues should include:

****the overall pattern of new development throughout the plan area;***

****options for planned growth of main settlements; and***

****options for major infrastructure projects***

To permit inappropriate development of this magnitude in a deeply rural location would prejudice the Community Planning, LDPs and LLPAs of the new Borough Councils. The Plan Strategies, Local Policies Plans, Statements of Community Involvement and Preferred Options Papers have yet to be implemented.

SPPS, Point 5.73 – **Prematurity**

*‘Where a new LDP is under consideration or review it may be justifiable, in some circumstances, to refuse planning permission on the grounds of prematurity. **This may be appropriate in respect of development proposals which are individually so substantial, or whose cumulative effect would be so significant, that to grant planning permission would prejudice the outcome of the plan process by predetermining decisions about the scale, location or phasing of new development which ought to be taken in the LDP context.** A proposal for development that has an impact on only a small area would rarely come into this category, but refusal might be justifiable where the proposal would have a significant impact on an important settlement, or a substantial area, with an identifiable character. Where there is a phasing policy in the LDP, it may be necessary to refuse planning permission on grounds of prematurity if the policy is to have effect.’*

In the EA Determination Sheet for this planning application the Case officer states:

'The proposed development raises some potentially significant environmental impacts due to the size, scale and nature of the proposal'.

And

'The magnitude, complexity and frequency of the impact are largely unknown due, in part to a lack of knowledge on the severity of the impacts and the potential mitigation available. The proposed development represents a new technology to the region'.

And

'While several applications for solar farms have been considered recently, none to date are on this same scale. The determining planning policy for assessment is Planning Policy Statement 18 Renewable Energy which is supplement with a best practice guidance which gives little guidance on solar farms other than to point out that they are rare in the UK'.

And

'Given the scale and size of the proposed scheme, and taking into consideration the consultation responses to date, I am of the opinion that the matters outlined above have the potential to be significant and therefore in order to be capable of full assessment require the submission of an Environmental Impact Statement'.

KellsVOCAL finds that the proposed development meets the prematurity criteria described in point 5.73 of the SPPS i.e. 'individually so substantial, or whose cumulative effect would be so significant, that to grant planning permission would prejudice the outcome of the plan process by predetermining decisions about the scale, location or phasing of new development which ought to be taken in the LDP context.' KellsVOCAL Urges the Department to refuse this planning application on the grounds of prematurity.

Throughout the ES there are repeated statements to the effect that the proposed site is not in a designated area, not on high quality agricultural land and not in a LLPA and the inference appears to be that there are therefore fewer requirements to afford protection to land, habitats, species or landscape.

However, NIEA acknowledge that not all priority habitats are within recognised or designated areas. In the document 'Priority Habitats – Advice for planning officers and applicants seeking planning permission for land which may impact on priority habitats April -2015' it states that:

'The Northern Ireland Environment Agency (NIEA) Biodiversity hazard mapping highlights those areas where priority habitats are more likely to occur. However NIEA does not have and cannot reasonably be expected to have, total knowledge of the location of every area of priority habitat in Northern Ireland. Therefore NIEA Biodiversity Hazard mapping should not be utilised to infer the complete coverage of these environmental assets in Northern Ireland'.

Thus, the proposed site, though not in an LLPA, not in a designated area and not located on high quality agricultural land, is nonetheless protected from inappropriate development.

'Point 11.3.5.3 - Antrim Area Plan 2001 and Ballymena Area Plan 2001

'Review of these area plans has highlighted that the proposed development is not in breach of any of the objectives detailed within the documents. The proposed development does not infringe upon or cause harm to areas requiring protection such as recreational areas, community facilities. Also, it is recognised that the proposed development contributes to the area plan goals of promoting and providing alternative energy and sustainable communities'

Please request that the agent clarifies which area plans this statement refers to, as KellsVOCAL is not aware of an Antrim Area Plan 2001 or Ballymena Area Plan 2001.

The Mid and East Antrim and Antrim and Newtownabbey Councils have yet to draw up their new LDPs and the existing Area Plans are Antrim Area Plan 1984-2001 and Ballymena Area Plan 1986-2001.

If, however, RPS is actually referring to the Antrim Area Plan 1984-2001 and the Ballymena Area Plan 1986-2001 then:

1. KellsVOCAL wishes to know where exactly in the documents it can refer to the area plan goals of promoting and providing renewable energy and sustainable communities'.

Especially as:

The Planning Decision Report relating to Castlegore Wind Farm G/2011/0136/F) states, with regard to both the Antrim Area Plan 1984 – 2001 and the Ballymena Area Plan 1986-2001:

'There are no policies relating to renewable energy in the Area Plan and no other appropriate policies under other categories such as Countryside, Tourism, Natural Environment, Public Utilities and Industry.'

It is important to know if RPS can supply this information as KellsVOCAL does not think that the goals of renewable energy and sustainable communities had been identified 30 years ago when the Area Plans were drawn up and can find no reference to them in copies of the documents. We may be mistaken, of course, but it appears that RPS has quoted incorrect information to support the planning application.

RPS is incorrect in stating that *‘the proposed development is not in breach of any of the objectives detailed within the documents’*:

Contrary to the above statement, the proposed development **would be in breach of the objectives** of the Antrim Area Plan 1984-2001 and the Ballymena Area Plan 1986-2001 which state:

*‘Permission will normally be granted for **small-scale commercial and industrial activities** in existing buildings such as disused agricultural or commercial buildings or on derelict sites providing there are no objections such as unsightliness, noise smell and excessive or dangerous traffic generation.’ (Antrim Area Plan 1984-2001 – Point 25.6) And*

*‘It is the Departments policy to encourage **large-scale commercial and industrial uses to locate within the district town** where there is a readily available supply of fully serviced sites.’ ‘Suitable **small scale industrial uses** would be welcome in appropriate sites in other settlements’. (Antrim Area Plan 1984-200 1 – Point 25.5)*

And

*‘The Department’s proposals indicate a range of development opportunities which exist in the area while taking account of likely future population changes. They seek to show sufficient and suitable sites or locations for the many land requirements of housing, industry, commerce, education and social and community facilities. Account is also taken of the various public utility requirements. **The Department aims to ensure that all such developments maintain or improve the pleasant physical environment of the District’.** (Ballymena Area Plan - Aims and Objectives – point 2.2)*

And:

*The treatment of the immediate surroundings of a building or dwelling is important. In this connection the Department will look for the minimum felling of hedges and hedgerow trees, when considering the visibility requirements needed to access sites. **Prominent and dominating access roads, gate pillars and boundary walls or fences, however appropriate in suburban areas, can be quite out of place in the countryside’** (Ballymena Area Plan 1986 -2001 – Rural Area, states (Location, Siting and Design, Point 26.27)*

And, similar to the Antrim Area Plan:

*‘In rural areas, permission will normally be granted for **small-scale commercial and industrial activities** in existing buildings such as disused agricultural or commercial buildings or on derelict sites providing there are no objections such a unsightliness, noise smell and excessive or dangerous traffic generation. In these cases there would likely be a strict limitation to further extensions to the project in its rural location.’ (The Ballymena Area Plan 1986-2001 – Point 6.5 of Employment and Industry.’*

RPS states that ‘the proposed development does not infringe upon or cause harm to areas requiring protection such as recreational areas, community facilities’.

KellsVOCAL disagrees and considers that the area surrounding this development site is, in itself, a recreational area and community facility area of local significance, used and valued by cyclists, ramblers, horse riders, pony trotters, dog walkers, and families out walking, visitors and tourists.

Point 2.2 of the new SPPS – The purpose of Planning, states:

‘Creating places where communities can flourish and enjoy a shared sense of belonging, both now and into the future, is fundamentally what planning is about’.

The proposed development would have exactly the opposite effect. The visual impact of 200,000 blue or black solar panels set in 10ft arrays as far as the eye can see, would remove all perception of the open and tranquil rural landscape that this community treasures. 5 miles of fencing and CCTVs would impose an overwhelming sense of enclosure, utterly changing the rural character of the Tardree Upland Pastures and The Tardree and Six Mile Water Slopes LCAs and removing environmental features that provide this community with a shared sense of belonging.

Please request that the agent clarifies Point 11.3.5.3 and explains which Area Plans are referred to and where the ‘area plan goals of promoting and providing alternative energy and sustainable communities ‘ can be found in them.

11.3.6.1 – Impact Assessment.

‘As noted, the dominant land use in the immediate study area is agricultural with residential properties scattered throughout.’

‘Residential sensitive receptors are the most frequent type of sensitive receptor found in the immediate area of the proposed development’. (Point 11.3.2.1)

This impact assessment clearly acknowledges that residential sensitive receptors (people and their homes) are scattered throughout the immediate area. Yet there is no consideration, within the meaningless list of general population figures in 11.3.3.1, of the impact on the human environment of the local population who would be most adversely affected by the proposed development.

This section refers briefly to Construction Phase impacts /mitigation measures. and socio-economic claims for both the construction and operational phases.

11.3.6.1 - 'Congestion, noise and dust pollution are potential impacts which may occur upon surrounding land uses.'

KellsVOCAL addresses these issues in the relevant sections of its response to the ES and challenges the claims for positive economic impacts and job creation in its response to the Non-Technical Summary.

11.5 – Cumulative Impacts

'As per Section 5.2 of this ES, a review of planning applications within 5km of the site took place to identify relevant approved and proposed planning applications as well as relevant existing developments within 5km. Cumulative impacts in this instance are defined as the additional changes caused by a proposed development in conjunction with other developments or as the potential combined effects of more than one development. No impacts have been identified for these schemes which act in-combination with impacts identified as part of the proposed development that would result in a greater magnitude of impact than originally predicted.'

RPS has carefully omitted to mention the four windfarms that would be in close proximity. There are already two large operational wind farms in the immediate area at Elliot's Hill and Wolf Bog. Approval has been obtained for an Anaerobic Digestion Plant at the nearby Tully Quarry on the Moorfields Road. Planning approval has also been granted for two additional wind farms G/2011/0136/F and G/2011/0052/F in close proximity further along the Whappstown Road. The addition of a solar power station stretching across 250 acres of farmland from Ross Lane on the Doagh Road, along and across the Whappstown Road and right across to the Craigstown and Speerstown Roads would create a totally unacceptable cumulative impact. It would be 1.2 mile long, comprising of 200,000 solar panels and be surrounded by 5 miles of security fencing.

This development would straddle the Tardree Upland Pastures and Tardree and Six Mile Water Slopes LCAs, characterised by a sense of tranquility, wildness, openness and high scenic quality. Along with existing, approved and proposed renewable energy proposals for this area, it would create unacceptable clustering and would impose a significant cumulative impact on the landscape and biodiversity of the area.

There is a growing recognition, by government and the public, of the adverse cumulative impact on landscape, biodiversity and rural communities, caused by the clustering of new developments in rural areas. Such impact would be greatly magnified, in this instance, by the magnitude of this development and its proximity to the other large-scale renewable energy sites concentrated within these small adjacent townlands.

“The cumulative impact of development in the countryside has the potential to reduce its value as a regional asset by damaging landscape, biodiversity and natural habitats and to create additional and unnecessary problems for the supply of services.”
(Regional Development Strategy for Northern Ireland 2025)

“There are concerns about the cumulative impact of development in parts of the countryside particularly in the east of the region”

And

“A recent Landscape Character assessment for all of Northern Ireland records that in many areas the delicate and high quality rural landscape and the visual amenity of the countryside is compromised or threatened by inappropriate development.”

And

“These growing pressures present a threat to the open countryside which is a vital resource for sustaining the genuine rural community”

The cumulative impacts of this development include:

“The loss of agricultural land and habitats”

“The increased visual impact of structures in the landscape”

(Regional Development Strategy for Northern Ireland 2025 – Section 8 -Rural Northern Ireland)

RSPB also has concerns about cumulative impact:

“Suitable sites for large scale PV arrays are limited in terms of climate, topography, access, existing land use (usually lower grade agricultural land), shading and proximity to grid connections. Therefore, proposed developments are likely to cluster together and potentially give rise to concerns about cumulative environmental impact.” (Solar Power – RSPB Briefing March 2011)



Conclusion

KellsVOCAL has considered the Land Use and Human Environment impact assessment in detail and concludes that it is a sketchy document, lacking in clarity and depth, notable for its omissions and inaccuracies.

KellsVOCAL urges the Department to refuse this planning application on the grounds of adverse environmental impact.

KellsVOCAL urges the Department to refuse this planning application on the grounds of Prematurity.

THE ES IS SO UNACCEPTABLE THAT THE DEPARTMENT MUST CALL FOR A PUBLIC INQUIRY SO THAT A FULL AND PROPER ASSESSMENT CAN BE MADE OF THIS APPLICATION.

Proposed Solar Power Station, Kells: LA03/2015/0234/F**12.0 SOILS, GEOLOGY & HYDROGEOLOGY**

After reading the RPS assessment on Soils, Geology & Hydrogeology (chapter 12.0)

We wish to bring to your attention the following;

12.2 Assessment Methodology

Within this section RPS make reference to “The preliminary assessment has been carried out within the current UK and European legislative framework with particular attention paid to the guidance set out in CLR 11 ‘*Model Procedures for the Management of Land Contamination*’ published by the Environment Agency and DEFRA, UK.” However they fail to mention numerous risks associated with the proposal for a solar power station on the Whappstown Road these include but not limited to:

- Drinking water contamination from broken solar panels
- Water contamination from broken solar panels – NO DESCRIPTION GIVEN OF PROPOSED SOLAR PANELS TO BE USED THROUGHOUT ANY OF ES
- Construction works – avoid mixing of soil types
- No soil samples taken from site nor analyzed
- Inaccurate information throughout assessment to conclude requirement for risk assessment
- Soil and ground erosion
- Compaction of soils and construction of tracks and other impermeable surfaces may result in increased run-off soils erosion, which may have a knock on effect on nearby water courses

12.3.1 Superficial Geology

RPS makes reference “According to the map” There should be analysis undertaken due to the vastness of this proposal. As indicated by The Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) – Criteria for determining the likely significance of effects on the environment¹;

1. The characteristics of plans and programmes, having regard, in particular, to –
(a) the degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources.

12.3.2 Bedrock Geology

RPS makes reference “According to the map” There should be analysis undertaken due to the vastness of this proposal. As indicated by The Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) – Criteria for determining the likely significance of effects on the environment;

1. The characteristics of plans and programmes, having regard, in particular, to –
(a) the degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources.

12.3.3 Hydrogeology

The information presented in this section from the “*GeoIndex portal is based on regional assessment of datasets, and cannot be directly used to determine site specific conditions without further supporting investigation and interpretation.*” As mentioned on page 57 in Appendix 12.1 of RPS EIA.

12.3.5 Hydrology

Within this section no mention of private drinking water supplies are mentioned. Even though reference is made to this within the Preliminary Risk Assessment (desk study) carried out “that there are no records of any private drinking water supplies – within a 500m radius of site.” Which is factually incorrect as per correspondence with Jillian Loughran DOENI 21/04/15 attached in appendix 3.1 in which she states “It is important you note that the drinking water inspectorate does not hold information on private water supplies which supply single dwellings.” Our records indicate at least 3 dwelling within 500m of proposed site are supplied with private water supplies. This in turn links to the guidance set out in CLR 11 ‘*Model Procedures for the Management of Land Contamination*’ published by the Environment Agency and DEFRA, UK. Which requires RPS to conduct relevant risk assessments due to possible contamination from broken solar panels.

¹ <http://www.legislation.gov.uk/nisr/2004/280/schedule/1/made>

NO DESCRIPTION GIVEN OF PROPOSED SOLAR PANELS TO BE USED THROUGHOUT ANY OF ES

RPS have failed to mention (a) water drainage (b) runoff water and its associated risks as mentioned in guidance set out in CLR 11 'Model Procedures for the Management of Land Contamination' published by the Environment Agency and DEFRA, UK.

12.3.7 Site Walkover

I bring to your attention to the Preliminary Risk Assessment (desk study) which states "The site walkover observations were made at discrete locations, which may not be representative of the entire site and have not been proven by ground investigation." Due to the magnitude of this site as indicated by The Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) – Criteria for determining the likely significance of effects on the environment²;

1. The characteristics of plans and programmes, having regard, in particular, to –
(a) the degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources.

12.4.1 Soils and Geology

DEFRA/EA R&D project FD2114 Review of impact of rural land use & management on flood generation (E. O'Connell et al) "There is substantial evidence that local flooding can be affected by changes in rural land management and management practices."

The Seventh Environment Action Programme (EAP) was adopted in November 2013. The 7th EAP sets out nine priority objectives and will guide European environment policy until 2020. Additionally, in order to give more long term direction, the EAP also sets out a vision for 2050. The EAP recognises that soil degradation is a serious challenge and requires that all land within the Union is managed sustainably by 2020, so that soils are adequately protected. The EAP commits the EU and its Member States to increasing efforts to reduce soil erosion, increase soil organic matter and to remediate contaminated sites.

The National Strategy for England; Safeguarding our Soils (DEFRA, 2009a), provides a long-term guide to direct policy regarding the protection of soils in England. The strategy highlights the importance of the protection of soils, especially in agricultural landscapes and during development. Protecting soils ensures the protection of their related ecosystem services, the mitigation of climate change, and prevention of contamination.

² <http://www.legislation.gov.uk/nisr/2004/280/schedule/1/made>

A considerable number of machinery movements across the land surface which may give rise to compaction and erosion. Additionally, there is a potential risk of scour erosion to areas of bare ground resulting from the water runoff during periods of heavy or high rainfall. Therefore, there would be a potential to damage both the soil structure and soil biology.



(The above picture are taken from - <http://www.hydrology.org.uk/dms-files.php?id=929&action=doc>)

A naturally occurring process in nature, soil and ground erosion are caused by water and wind. Expected as a gradual occurrence and planned for at a certain periodic rate, **sudden erosion can have a deleterious effect on a PV plant. Loss of topsoil can lead to reshaping of the ground and the creation of channels, holes and slopes in earth. This could cause racking to shift affecting the ability of panels to generate the energy. It could also lead to flooding and destruction of equipment.**

Best Farming Practice:

1. FRA's need to take into account soil condition
2. Pre-development runoff calcs. should assume soil is in good condition in accordance with Best Farming Practice. (NPPF Reducing flood risk)
3. After construction the soil should be chisel ploughed to mitigate soil compaction during construction
4. Planning applications should include an enforceable soil management plan to keep soil in good condition & for decommissioning.

12.4.2 Groundwater

I am greatly concerned about the whole question of heavy metal leaching from the photovoltaic cells of solar panels into ground water, which in turn runs into locally sourced well water used for human consumption (no mention of solar panel description throughout any of this EIS). I have now had the chance to make a thorough internet search on the scientific aspects of solar panels, heavy metals and the possibility of these leaching into the ground and thus the water table. There is very serious concern within the scientific community about the safety of the panels.

1. PANEL SAFETY

The most comprehensive article I have been able to find is [www.iaia.org/conferences/.../Social Impacts of Photovoltaic draft.doc](http://www.iaia.org/conferences/.../Social_Impacts_of_Photovoltaic_draft.doc).

I will quote relevant parts of it in full because of the relevance and importance:-

Impacts

The main concerns about occupational and health risks from a life cycle perspective of a PV system are related with [sic] the emission of toxic or risky substances used to manufacture PV cells. The potential risk can occur during the manufacturing process, from the leaching of substances or from the combustion of modules. The list of chemicals in the final PV cell is different from the chemicals used to manufacture them, as solvents and acids for cleaning the semiconductors parts or gases for depositing the thin-film layers are not present in the final product (EPRI and California Energy Commission 2003).

Among the most dangerous substances related with PV systems from a life cycle approach, we can find: **Silica (SiO₂)**. The mining of metallurgical grade silica can produce silica dust that has been associated with silicosis, a severe lung disease.

Cadmium (Cd). Known carcinogenic. Extremely toxic (EPA and OSHA). Potential to cause kidney, liver, bone, and blood damage from ingestion. Lung cancer from inhalation. Workers may be exposed to cadmium compounds during manufacturing. It is restricted by RoHS directive.

Silane (SiH₄). Most significant hazard. It is extremely explosive. Dangerous for workers and communities. The semiconductor industry reports several silane incidents every year, although some companies use an alternative that in turn could be used in the PV industry.

Chlorosilane (HSiCl₃). Very toxic and highly flammable Silicon Tetrachloride (SiCl₄) (waste). Extremely toxic substance. Causes skin burns, and is a respiratory, skin and eye irritants.

Hydrogen selenide (H₂Se). Highly toxic and dangerous at concentrations as low as 1 part per million in the air. Will present occupational health and safety issues.

Sulfur hexafluoride (SF₆). Extremely potent greenhouse gas. Accidental or fugitive emissions will greatly undermine reductions gained by using solar power.

Selenium dioxide (SeO₂). Potential formation at high temperatures. It is a tissue poison like arsenic. The recovery of selenium is very high but not 100 percent.

Sodium hydroxide (NaOH), hydrochloric acid (HCL), sulfuric acid (H₂SO₄), nitric acid (HNO₃), hydrogen fluoride (HF), phosphine (PH₃) or arsine (AsH₃), Isopropyl alcohol (C₃H₈O). These components require special handling and disposal procedures because of possible chemical burns and risks from inhalation of fumes. Kerf (waste silicon dust from sawing c-Si wafers). May generate silicon particulate matter that will pose inhalation problems for production workers and those who clean and maintain equipment.

Lead (Pb). Highly toxic to the central nervous system, endocrine system, cardiovascular system, and kidneys. **Brominated flame retardants (BFRs), Polybrominated biphenyls (PBBs) and Polybrominated diphenylethers (PBDEs). Hexavalent chromium (Cr (VI))**. They are considered carcinogenic.

The hazard to health depends on: toxicological properties of materials, some of which are toxic, carcinogenic or flammable; intensity or concentration; frequency and duration of human exposures or doses; and the existence of a complete pathway from the compound to the receptor. These, also, depends on the availability and efficiency of safety and pollution control systems (V. M. Fthenakis and Moskowitz 2000). It is also important to note that not known interactions paths between components (for instance while operation of the PV system) exist and not all the interactions have been tested in the laboratory. Many of the occupational and health problems can be resolved if proper actions are taken.

Much of the above relates to production, but it is clear that some very unpleasant elements can be found in some or all solar panels.

2. Use/Operation

Although the risk is low, potential human damage could occur from the leaching of materials from broken PV modules with heavy metals with cadmium or selenium being of special concern. Accidental fires or damage (e.g. winter weather) could release fumes into the atmosphere and the nearby community are the main concern. (EPRI and California Energy Commission 2003) The practical risk with regard to solar farms is clearly set out. Potential human damage can occur from the leaching of materials from broken PV modules with heavy metals with cadmium or selenium being of special concern.

3. PANEL DEGRADATION

The next area of concern is that of the degradation of the panels over their life time. Fundamentally there is little or no information on this. While it has been stated that Solar cells contain heavy metals that can leach into groundwater when disposed at the end of their lifecycle (<http://www.policymic.com/articles/56189/the-dirty-secrets-behind-solar-power>; eandt.theiet.org/magazine/2013/02/debate.cfm), these articles make no mention of lifetime leaching.

There is a mention of toxic chemical pollution from heavy metals used in photovoltaic cells (klemow.wilkes.edu/Solar1.09.ppt) and the potential of heavy metal leaching after a fire (www.bnl.gov/pv/files/pdf/abs_175.pdf). One statement seems to look at this problem, but when studied in detail it is only referring to construction (www.oregon.gov/ODOT/HWY/.../life-cyclehealthandsafetyconcerns.pdf):- “Installed silicon-based cells pose minimal risks to human health or the environment according to reviews conducted by the Brookhaven National Lab and the Electric Power Research Institute.” There is no mention of panel breakdown, or degradation over time with subsequent leaching. There are other articles about whether solar panels are ‘clean’, many of them repetitive and quoting, or not, each other.

However, here are two examples of the type of statements being made repeatedly:- “Solar cells contain heavy metals that can leach into groundwater when disposed at the end of their lifecycle” “Upon a closer look at solar cell lifecycles, scientists are discovering the same types of short- and long-term harms that environmentalists have historically rallied against” - inter alia <http://www.policymic.com/articles/56189/the-dirty-secrets-behind-solar-power> and eandt.theiet.org/magazine/2013/02/debate.cfm.

4. SCIENTIFIC RESEARCH IN TO PANEL DEGRADATION

<http://water.usgs.gov/wrri/10grants/progress/2010TX360B.pdf>

The Effect of Photovoltaic Nanomaterial Roofing on Harvested Rainwater Quality Project Number: USGS 104b Research Grant Principal Investigator: Qiao (Amy) Gao, M.S.E. Student, Department of Civil, Architectural and Environmental Engineering, The University of Texas at Austin, 1 University Station C1786, Austin, TX 78712. Co-Principal Investigator: Mary Jo Kirisits, Assistant Professor, Department of Civil, Architectural and Environmental Engineering, The University of Texas at Austin, 1 University Station C1786, Austin, TX 78712.

Abstract: The global freshwater and energy crisis have prompted worldwide investments in rainwater harvesting and solar energy systems. As the implementation of these two systems develops concurrently, they can easily become integrated into one rooftop structure.

Photovoltaic systems have the potential to leach heavy metals and other toxins from newly installed, broken or aged modules. Since the type of roofing material used for rainwater harvesting has been shown by several studies to affect the quality of the harvested rainwater, the use of solar panels on rooftops as catchment systems may pose a health risk to consumers. Hazardous materials leached from solar panels can alter the water quality of the harvested rainwater.

Based on this research this would conclude this is also the same for well water.

This paper presents a laboratory-scale investigation of the effect of new and aged photovoltaic surfaces on the quality of harvested rainwater and will assess if solar panel systems can become significant sources of contamination in harvested rainwater.

Exposure to heavy metals, such as cadmium, leached from solar panels has been found to disrupt the respiratory system in rats, mice, monkeys, rabbits and hamsters (Fthenakis et al., 1999). Therefore, consumption of rainwater harvested from a photovoltaic rooftop might pose a human health risk.

To our knowledge, no one has studied the impact of a photovoltaic rooftop on harvested rainwater quality. Therefore, the objective of this study is to understand how the use of photovoltaic panels as the catchment surface impacts the quality of the harvested rainwater.

This is a very thorough investigation and runs to 15 pages. This raises the question if rain water from 16 – 20 solar roof panels can cause contamination and leach into drinking water, what will happen when rain water flowing over 200,000 solar panels drains onto open ground.

There is no reference in the ES regarding water contamination. This being a major concern for all residents using well water.

5. A SHORT NOTE ON HEAVY METALS

The main heavy metals involved in poisoning are Lead, Mercury and Cadmium - also arsenic, thallium etc. By convention it excludes the really heavy metals which are the radioactive metals and elements which have other problems all of their own! Heavy metals are commonly defined as those elements with a high (>5.0) relative density. There is, however, an ongoing debate regarding the exact definition and, in terms of health, it is better to think of these as metals or semi-metal compounds which have the potential to cause environmental or human toxicity.

Heavy metal poisoning can be acute or chronic and may be caused by the following: Lead. Mercury. Iron. Cadmium. Thallium. Bismuth. Arsenic (technically not a true metal but a semi-metal - i.e. non-metal with some metallic properties). The metals may enter the body by: Ingestion. Inhalation. Absorption through the skin or mucous membranes. They are then stored in the soft tissues of the body. The heavy metals once absorbed, compete with other ions and bind to proteins, leading to impaired enzymatic activity resulting in damage to many organs throughout the body.

The most common cause of heavy metal poisoning is lead.

The main potential heavy metal candidates for problems with solar panels seem to be: - **LEAD POISONING MERCURY POISONING CADMIUM POISONING.** Lead poisoning is still relatively common (plumbism). Mercury poisoning and Cadmium poisoning is perhaps the most worrying. Cadmium can be very toxic, and is dangerous if it is swallowed or inhaled. While spontaneous recovery from mild cadmium exposure is common, doses as low as 10 milligrams can cause symptoms of poisoning. There is no accepted fatal dose amount. When a person has exposure to cadmium in low doses over a long period of time, symptoms may include loss of sense of smell, cough, shortness of breath, weight loss, and tooth staining. Chronic cadmium exposure may cause damage to the liver and kidneys. The most common cause of cadmium poisoning is a lack of proper precautions in places where cadmium is used. In such industries, air quality should be regularly monitored. Chronic cadmium poisoning is also possible through soil or water contamination.

6. CONCLUSION

There is evidence that damage & degradation of these panels will result in leaching of these metals into the ground. These metals do not degrade.

This proposed application site lies on undulating land which means that water will eventually drain into whatever watercourse(s) drain the site and will inevitably end up in the water table. Having read all the documents of this ES not one of the 'ecological-type' reports even mentions damage or degradation of the panels.

Any drainage scheme should be supported by percolation / soakaway tests on site. The corollary to this must be that:-

- Run off from the panels will occur in a linear fashion.
- It will be relatively concentrated over a small area
- It will immediately enter the ground
- It will then percolate into the water



Using the precautionary Principle the department must carry out rigorous research starting with obtaining from the agent the make and model of the proposed panels. A fully annotated block plan will be required to assess the potential for runoff.

Expert advice must be obtained to assess the potential hazards of leaching of heavy metals into the soil.

We do not know what harm these panels are going to do in the long term and could be heading for an ecological disaster.

This application to cover 250 acres of undulating countryside with 200,000 potentially toxic panels in an area surrounded by housing and traversed by numerous streams is unprecedented.

THIS APPLICATION MUST BE REFUSED.

A PUBLIC INQUIRY SHOULD BE CALLED TO INVESTIGATE THE POTENTIAL DANGERS OF SITING 200,000 HAZERDOUS PANELS IN THIS LOCATION

Proposed Solar Power Station, Kells: LA03/2015/0234/F

13.0 NOISE & VIBRATION.

PLEASE NOTE THAT THE AGENT HAS FAILED TO CONSIDER VIBRATION IN HIS PURPORTED ENVIRONMENTAL STATEMENT

After studying the RPS assessment on Noise & Vibration, chapter 13.0, of the purported ES for and on behalf of Elgin Energy's planning application for a proposed solar power station at Whappstown Road, Kells, we wish to bring to your attention the following flawed information;

13.1 Introduction

RPS state "A full description of the proposed solar farm is included in Chapter 2 Project Description and specifications for the relevant plant to be incorporated in the proposed development are included in:

Appendix 13.1. The proposed development will contain one primary substation in the centre of the proposed site and 40 inverter substations throughout the site."

Based on the information in Appendix 13.1 the agent has failed to identify the exact make and model of transformer (substation).

RPS has identified in Appendix 13.1 that the proposed maximum ABB inverter will have a MAX capacity of 500 kW.

Calculation: $500 \text{ kW} \times 40 = 20\text{MW}$

THE APPLICATION IS FOR A 50MW GENERATION CAPACITY.

THE 40 PROPOSED INVERTERS HAVE A MAXIMUM CAPACITY OF 20MW.

IN THE ABSENCE OF A FULLY ANNOTATED BLOCK PLAN SITE LAYOUT NO ASSESSMENT CAN BE OF THE POTENTIAL TO GENERATE ELECTRICITY AND THE NUMBER OF INVERTERS AND THE NOISE GENERATED BY THESE INVERTERS

THE APPLICATION IS FLAWED AND MUST BE REFUSED.

Appendix 13.1 provides a specification for NexTracer sun tracking motors (total of 2,800 units). RPS has previously stated the proposed solar panels will be fixed as per EIS Chapter 2.0 Product Description - 2.2.2 Mounting System "Depending on ground conditions frames will be fixed to the ground".

THE ES IS MISLEADING AND FLAWED. THE APPLICATION MUST BE REFUSED.

13.3 Existing Environment

“Noise monitoring was allegedly conducted at the proposed development site during daytime on one day, 16th April 2015.

On the day in question construction work was being carried out at Nr.15 Whappstown Road. This included the use of a Kango Hammer, a concrete saw and an angle grinder. None of this noise was recorded despite measurements supposedly being taken within 100 metres of this activity.

The noise monitoring involved movement around different areas of the site, setting up, stabilizing equipment and taking and recording readings. Pack up and move to location.

The following e mail chain was sent between some members of our committee

-----Original Message-----

From: Nicky Nesbitt

Sent: 16 April 2015 11:53

He's back at the top of our lane now!!

> On 16 Apr 2015, at 10:20, Ed Crawford wrote:

Just so happens I've 3 workmen on my roof. Went to talk to the sound man but he has gone

>> On 16 Apr 2015, at 08:58, Nicky Nesbitt wrote:

Will it not be in our favour then that the site area is so quiet?

>>> On 16 Apr 2015, at 08:57, janeburnside wrote:

This application is very real and shows how determined Elgin are to push this through. RPS are the consultants for Elgin.

Jane D Burnside Architects

>>>> On 16 Apr 2015, at 08:17, Nicky Nesbitt wrote:

Ok iv just spoken to him and he's from a company in Belfast called RPS and they've been hired by Elgin to carry out noise survey right round site over next few days/weeks both during day and night!

Nicky

>>>>> On 16 Apr 2015, at 08:09, Nicky Nesbitt wrote:

Hi guys

Just to let u know there is a man setting up sound equipment at the top of our lane now and when asked all he would say it was to do with solar farm!!

Nicky

At 08.10 the equipment was first being set up. The first recording was 08.33 – 08.43

Each of these questionable sessions lasted 10 minutes precisely. The following is an analysis of the noise monitoring refer to table 13.3



FLAWED NOISE MONITORING				CUT & PASTE ERRORS							
1	8.33	8.43	1 -26 Whappstown								
2	8.44	8.54	1 -26 Whappstown								
3	8.54	9.04	1 -26 Whappstown								
4	9.04	9.14	1 -26 Whappstown								
5	9.16	9.26	1 -26 Whappstown								
6	9.26	9.36	1 -26 Whappstown								
7 minute travel & set up				TWO PLACES AT THE SAME TIME				THREE PLACES AT THE SAME TIME			
1	9.41	9.51	2 -22 Speerstown	1	9.41	9.51	Ross	1	9.41	9.51	Craigstown
2	10.52	9.52	2 -22 Speerstown	2	10.52	9.52	10.02 Ross	2	10.52	9.52	10.02 Craigstown
3	10.02	10.12	2 -22 Speerstown	3	10.02	10.12	Ross	3	10	10.12	Craigstown
7 minute travel & set up											
1	10.19	10.29	14 - 16 Whappstown								
2	10.29	10.39	14 - 16 Whappstown								
3	10.39	10.49	14 - 16 Whappstown								
1 hour 33 minutes lunch?											
7	12.22	12.32	1 -26 Whappstown								
8	12.33	12.43	1 -26 Whappstown								
9	12.43	12.53	1 -26 Whappstown								
10	12.53	13.03	1 -26 Whappstown								
11	13.04	13.14	1 -26 Whappstown								
12	13.14	13.24	1 -26 Whappstown								
7 minute travel & set up											
13	15.41	13.31	13.41 2 -22 Speerstown								
14	15.51	13.41	13.51 2 -22 Speerstown								
15	13.52	14.02	2 -22 Speerstown								
5 minute travel & set up											
13	14.07	14.17	14 - 16 Whappstown								
14	14.14	14.28	14 - 16 Whappstown								
15	14.28	14.38	14 - 16 Whappstown								

This is a very poor cut and paste exercise. Monitoring was allegedly carried out at three different locations all at the same time and with the same cut and paste error.

In the absence of a reliable noise survey there is no noise survey. Using the precautionary principle this section of the ES cannot be relied upon.

THE AGENT HAS AGAIN DEMONSTRATED THAT NOTHING IN HIS ES CAN BE RELIED UPON. THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE ES IS FLAWED.

Methodology for noise monitoring

Daytime noise monitoring was completed for one hour at each monitoring location:
Five Monitoring stations were selected.

The reality is that RPS has tried but completely failed to fabricate a timetable to try to disguise the reality that the survey was incomplete and inaccurate

1 – 26 Whappstown Road	08.33 – 09.36	63 minutes
1 – 26 Whappstown Road	12.22 – 13.24	62 minutes
2 – 22 Speerstown Road	09.41 – 10.12	31 minutes
2 – 22 Speerstown Road	13.31 – 14.02	31 minutes
14 – 16 Whappstown Road	14.07 – 14.38	31 minutes

Ross Lane	No Monitoring	Surveyor was elsewhere
Craigstown Road	No monitoring	Surveyor was elsewhere

THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE NOISE SURVEY IS FLAWED.

Wind noise

This assessment does state if wind speed was measured and used to derive the baseline noise levels.

BS 4142 implies that measurements can be taken in wind speeds up to 5 m/s, i.e. it states 'For the purposes of this standard, windshields are generally effective up to wind speeds of 5 m/s'. Subsequently, BS 4142 implies that measurements can be taken when heavy rainfall does not occur. It suggests that 'heavy rain, falling on the microphone windshield or nearby surfaces can cause noise interference'. It is considered that, by only using data obtained when wind speeds are at or less than 5 m/s and when heavy rainfall did not occur, data will be obtained that is robust and valid in accordance with BS 4142. Absence of wind and other 'natural' sounds may be considered atypical, unrepresentative, and outwith the requirements of BS 4142 for the background noise level.

THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE NOISE SURVEY IS FLAWED

The assessment methodology contained within BS 4142 requires a +5 dB correction be applied to the assessed noise emissions from a facility if 'the noise contains a distinguishable, discrete, continuous note (whine, hiss, screech, hum, etc.)'. BS 7445 Part 2 [7] states: 'a prominent tonal component may be detected in one-third octave spectra if the level of a one third octave band exceeds the level of the adjacent bands by 5 dB or more.' The dominant noise sources associated with the development are the air-cooling fans in the facades of the containers.

THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE NOISE SURVEY IS FLAWED

13.4.1 Construction Phase

It is stated that – “In terms of noise producing activities, the principal items of plant that will be used throughout the proposed site during the construction phase will be a tractor towing a trailer to move the various items of infrastructure throughout the site and an small excavator to dig small trenches for cable runs and to prepare foundations for the substation and inverter station.”

A construction site on this scale may require **multiple** tractors, trailers and excavators to complete the site works within the desired timescale. While it is apparent that the site labour force will not exceed 28 persons no attempt has been made to identify the trades of site personnel nor the plant and machinery to be used.

THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE NOISE SURVEY IS FLAWED

Table 13.4: Summary of Night-time Noise Monitoring

This table only illustrates night-time noise measured from 2301 to 0004. However night time is defined as 2300 to 0700. **They have failed to record noise in the locality of this site from the 0005 to 0700 which is essential as during the summer months the sun rises from 0400 meaning the solar panels may be in operation.**

The night time noise survey contains what we believe to be a typographical error. Measurement 4 23.32-3.42.

It is unknown if there are other errors.

Using the precautionary principle this survey cannot be relied upon.

THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE NOISE SURVEY IS FLAWED.

13.4.2 Operational Phase

It was stated that “The BS4142:2014 assessment was only completed for daytime as the substation plant will only be active during the daytime when solar energy is feeding into the PVA units.” **How is this be possible when during the summer months we have sunrise from 0400 which defined as night time. Which means the solar panels will be operational from 0400.**

THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE NOISE SURVEY IS FLAWED

Table 13.5: Noise Levels for Construction Plant (Ref: BS 5228:2009+A1:2014)

Due to the scale of this application (116.5 hectares as described in the O C E M P) and the expected construction time (16 weeks) it is completely factually incorrect for the assessment to only calculate the noise levels for 1x tractor towing a trailer and 1x small excavator. A construction site on this scale may require **multiple** tractors and trailers and excavators to complete the site works within the desired timescale.

Based on the information given by RPS it was stated that “a worst-case predicted noise level of 80dB (A) at 10m has been used to determine predicted noise levels at the nearest noise sensitive properties.” On this basis it can be assumed this **threshold limit of 80dB(A) will be intensively magnified** when it is proven that **multiple vehicles** will be operating during the construction phase causing the nearest noise sensitive properties extreme hardship and in breach of the following standards and policies:

The Noise Policy Statement for Northern Ireland

- British Standard 8233: 2014 Sound Insulation and Noise Reduction for Buildings – Code of Practice
- British Standard BS 5228:2009+A1:2014 Noise and Vibration Control on Construction and Open Sites
- World Health Organisation (WHO) – Guidelines for Noise

This table does not cover the possibility of additional construction plant as described in the OCEMP which mentions the following:

- Generators
- Compressors
- Pumps
- Driven Rams
- Excavators

THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE NOISE SURVEY IS FLAWED AND FAILS TO CONSIDER RELEVANT FACTS AND POLICIES

Table 13.6: Worst-Case Predicted Noise Levels at Nearest Noise Sensitive Properties

This information is incorrect based on the requirement for **multiple vehicles** and machines required to carry out the construction phase within the required timeframe. This information needs to be recalculated to include multiple vehicles and their correct noise levels to nearest noise sensitive properties. The following construction equipment should also be taken into account as there is a possibility of their use:

- Generators
- Compressors
- Pumps
- Driven Rams
- Excavators

Also Table 13.6 illustrates that worst-case predictions exceed the daytime noise threshold limit of 65dB (A) for daytime included in Table 13.1 at 10 properties. On this basis it can be assumed this threshold limit of 65dB (A) will be **intensively magnified when it is proven that multiple vehicles will be operating on this site during the construction phase causing the nearest noise sensitive properties extreme hardship and breach:**

- The Noise Policy Statement for Northern Ireland
- British Standard 8233: 2014 Sound Insulation and Noise Reduction for Buildings – Code of

Practice

- British Standard BS 5228:2009+A1:2014 Noise and Vibration Control on Construction and Open

Sites

- World Health Organisation (WHO) – Guidelines for Noise

13.4.2 Operational Phase

This section is of serious concern as a low frequency noise emitting from associated infrastructure such as the substations and inverters will travel beyond the boundary of the proposed site, through buildings including residential properties **at a level exceeding 35 Decibels inside properties**. There has been no attempt by RPS to address this issue.

They have **failed to provide evidence** of their noise model created using CadnaA noise modeling software. I predict (as research suggest from other solar farm applications¹) they have also failed to include a cumulative noise level of all 40 x Invertors, transformers and switch gear which will cause **an adverse effect of health and quality of life over 25 years** which is a breach of The Noise Policy Statement for Northern Ireland. To put this information into context as described by the DOE NI bothered by Noise leaflet²:

- 100dB(A) Pneumatic drill at 5 m (100 dB(A)) Heavy goods vehicle from pavement
- 90 dB(A) Powered lawnmower at operators ear
- 80 dB(A) Average traffic on street corner (74 dB(A)) Vacuum cleaner at 3m

Research from other Solar Farm applications state there is an electrical hum from inverters, transformers and switch gear. As there is no evidence from the RPS noise model we are unable to determine if they have calculated the impact of this noise.

THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE NOISE SURVEY IS FLAWED

¹ <http://www.southhams.gov.uk/planningdocs/1/00/27/97/00279765.pdf>

² http://www.doeni.gov.uk/bothered_by_noise_leaflet_-_13_august_2010.pdf

13.4.3 Cumulative Noise Impact

We would bring to your attention 8x wind turbines with planning permission (granted July'15) within 2.5km from the proposed site (G/2011/0052/F & G/2011/0136/F) as well as one 225kW single turbine application (G/2011/0018/F).

There should be a minimum distance of at least 2.5km between turbines and occupied housing or work places - in order to adequately address public safety and other issues including noise and shadow flicker³

Also within 1.2km of the Whappstown Road is a NIE/Soni Sub-station.

SPP6 confirms that, in all instances, proposals should not be permitted if they would have a significant long term detrimental impact on the amenity of people living nearby.

This should be taken into account when making a decision. There is nothing to govern cumulative impact in Northern Ireland on local residents from energy sources.

Cumulative impacts require particular attention, especially the increasing impact that wind turbines and large scale solar farms can have on landscape and local amenity as the number of turbines and solar arrays in an area increases⁴
In assessing the impact on visual amenity, factors to consider include: identifying key viewpoints, the people who experience the views and the nature of the views.

In identifying impacts on landscape, considerations include: direct and indirect effects, cumulative impacts and temporary and permanent impacts. When assessing the 12 significance of impacts a number of criteria should be considered including the sensitivity of the landscape and visual resource and the magnitude or size of the predicted change. Some landscapes may be more sensitive to certain types of change than others and it should not be assumed that a landscape character area deemed sensitive to one type of change cannot accommodate another type of change.⁵

THE APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE CUMULATIVE IMPACTS HAVE NOT BEEN ASSESSED

³ <http://docs.wind-watch.org/NIR-wind-energy-volume-2.pdf>

⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/225689/Planning_Practice_Guidance_for_Renewable_and_Low_Carbon_Energy.pdf

⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/225689/Planning_Practice_Guidance_for_Renewable_and_Low_Carbon_Energy.pdf

13.5.1 Construction Phase

NTS page 9:

This timeframe is based on a working day of 8am -6pm and 18:00 from Monday to Friday and from 8am – 1pm on Saturday.

In the Noise & Vibration section page 13/8 over the full daytime period (07.00 – 23.00) the averaged noise levels will be substantially below 65dB(A).

This raises several objections.

It must be assumed that the applicant proposes to work from 7.00 am until 11.00 at night.

Many families who reside at the Nearest Noise Sensitive Properties have family members work shift patterns and families with babies and small children who sleep during these proposed operating times.

This will result an adverse effect of health and quality of life

Noise cannot be averaged. Roaring of machinery may last a short time in close proximity to dwellings. This cannot be averaged out when machinery is further away.

THIS APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE PROPOSED WORKING HOURS ARE UNACCEPTABLE

THIS APPLICATION MUST BE REFUSED ON THE GROUNDS THAT NOISE LEVELS ARE UNACCEPTABLE AND CANNOT BE AVERAGED

Vibration

“There are no activities during the construction phase that are likely to result in significant vibration impacts at the nearest sensitive receptors.”

This is completely unacceptable.

Vibration at construction phase has been given a three line paragraph within the noise and vibration section of the purported ES.

Vibration during the operational phase has been completely ignored.

RPS state that there are no activities during the construction phase that will give rise to vibration.

This is completely untrue. This has not taken into account multiple construction vehicles working at the same time causing a magnified vibration levels to the nearest sensitive properties. In which some of these properties have structurally unsound buildings.

Ramming supports for 200,000 panels will cause vibration.

The PMCA socio-economic report claims there will be 120 piling operatives on site. This must equate to 30 – 40 piling rigs.

The vibration caused by this many piling rigs is totally unacceptable.

During the operational stage there will be vibration caused by wind interacting with the panel arrays. A vibration assessment cannot be carried out until the agent has supplied a fully annotated block layout plan of each portion of the site.

THIS APPLICATION MUST BE REFUSED ON THE GROUNDS THAT NO VIBRATION ASSESSMENT HAS BEEN MADE OF EITHER THE CONSTRUCTIONAL OR OPERATIONAL PHASE.

Conclusion

This Noise & Vibration Assessment is incomplete inaccurate ineffective and unreliable.

IN THE ABSENSE OF AN EFFECTIVE ENVIRONMENTAL STATEMENT THERE IS NO STATEMENT.

THIS APPLICATION MUST BE REFUSED ON THE GROUNDS THAT THE NOISE AND VIBRATION ASSESSMENT IS INCOMPLETE, INACCURATE, INEFFECTIVE AND UNRELIABLE.

Proposed Solar Power Station, Kells: LA03/2015/0234/F**14.0 TRAFFIC & TRANSPORTATION**

After reading the RPS assessment on Traffic & Transportation (chapter 14.0) for and behalf of Elgin Energy. We wish to bring to your attention the following;

“The planning system has an important role to play in promoting road safety and ensuring the efficient use of the public road network. In assessing development proposals the Department will therefore seek to ensure that access arrangements for development proposals are safe and will not unduly interfere with the movement of traffic.”

14.2 Access to Site

We wish to bring to your attention - DCAN 15 - when the minor road is busy, a greater x-distance is necessary to allow more than one emerging vehicle to accept the same gap in priority road traffic, thus reducing delay and frustration for emerging drivers.

RPS have failed to identify the current poor visibility that will affect the returning construction traffic from the minor road (Whappstown Road) onto the priority road (Doagh Road) as shown on picture 1.



Photo 1 - View from left at end of Whappstown Rd onto Doagh Road

The heavy construction traffic that will have to use this narrow access road, which has limited passing places to access the site proposed for the large solar power station (photo2 highlights verge destruction with light agricultural use over 3 days), which will have a significant impact on horse rider's, pedestrian and other road users safety. Transport NI and NI planning department have a duty of care to all road users.



Photo 2 - verge destruction with light agricultural use over 3 days

Whappstown Road is at best 4m wide and totally unsuitable for the proposed volume of Heavy plant and HGVs

Access onto Priority Road – Doagh Road

DCAN 15 - Visibility on the Priority Road is also required to provide indivisibility between vehicles using the minor road and those proceeding along the priority road. In particular, a vehicle waiting on the priority road to turn right into the access must be able to see oncoming traffic and be seen by following traffic.

We wish to bring to your attention the following planning documents and the missing sections PRS have failed to cover;

➤ **Right turning lanes – (DCAN 15)**

Factors which the Department will take into account include:

- volume of right turning traffic-requires particular consideration when total flow on the minor road exceeds 500 vehicles per day (i.e. serving more than 50 dwellings);
- speed and volume of priority road traffic;
- forward sight distance (proximity to crest or bend);
- junction spacing;
- accident history / potential;
- character / status of the priority road;
- relevant traffic model output

➤ **PPS 3 Policy AMP 2 Access to Public Roads;**

Planning permission will only be granted for a development proposal involving direct access, or the intensification of the use of an existing access, onto a public road where:

- a) such access will not prejudice road safety or significantly inconvenience the flow of traffic;**
- b) the standard of the existing road network together with the speed and volume of traffic using the adjacent public road and any expected increase.**

“Where an existing access is to be used, but is sub-standard, a condition requiring its improvement prior to the commencement of the development will normally be imposed on a grant of planning permission.”

There has been no indication given to additional accesses.

It was stated “The haulage companies will be directed to use the Doagh Road as the main arrival / departure route for the construction phase of this proposal.” However this is not guaranteed as this depends on the business locations of haulage contractors and the direction materials arrive from i.e. ports Larne/Belfast.

RPS has failed to identify - Controls under health and safety legislation and good construction site practices, such as wheel wash facilities on the site and if required routine cleaning of Haul roads and access roads to ensure there are no mud deposits left on the access route.

There is no indication made in RPS assessment regarding the regular cleaning or sweeping of mentioned haul roads, for the safety and protection of other roads users. 1993 No. 3160 (N.I. 15) PART VII Other interference with roads Article 95 – Which can cause pollution of watercourses by release of silt and can have seriously damaging effects on fish, invertebrate and plant populations.

Failure by RPS to comment on PPS3 AMP2 - Rural Car Parks 5.67 The amount and arrangement of car parking in rural locations can have a significant impact on the natural environment, particularly in sensitive locations. The development of larger schemes in the countryside.

5.68 The design, layout and landscaping of rural car parks should seek to retain the open nature and visual amenity of the countryside. In addition matters such as floodlighting, will require careful design in order to minimise their impact on visual amenity. failure by RPS to reference such.

PPS3 AMP2 states – “**Temporary Car Park** - Developers should note that a time limited planning permission for temporary use of land for car parking will not normally be renewed.” If the construction project is delayed RPS have failed to mention there alternative plan of action. What is the alternative if the construction process is delayed? This should be included within the Construction Programme by RPS.

With proposed working hours from 07.00 to 23.00 lighting will be required in the temporary compounds / carparks.

Failure to identify the requirement by law for the haulage contractor to hold a Waste Disposal License.

14.5 Construction Programme

This assessment fails to mention in their proposed construction programme **site staff numbers and their vehicle trips**, which will have a significant increase in traffic volumes. RPS have a need to re-evaluate this ES and include these volumes and new calculations given.

Additionally **weights and lengths of HGV's were** not covered in this assessment which also brings concern regarding maneuvering of HGV's on the mentioned access road based on their length and their inability to complete a turn without swinging the vehicle onto opposite verges and destroying such, which in turn leads to mud deposits being left on the access route and a **Health & Safety concern** for other road users.

Failure by RPS to reference the following area of law which will require the contractor to compensate the DOE for such;

- Damage to road due to weight and volume of traffic connected to construction phase of solar farm **1993 No. 3160 (N.I. 15) PART IV, Safety of roads, Article 60**
- Obstruction of roads - **1993 No. 3160 (N.I. 15)PART VII, Other interference with roads, Article 88**
- Damage to roads – **1993 No. 3160 (N.I. 15),PART VII, Other interference with roads, Article 85**

The assessments fails to mention the following highly significant subjects;

- a) maximizing the efficiency of transportation to reduce trips.
- b) signage schemes.
- c) delivery break down i.e.

- 25 lorries with the framework and structure
- 80 lorries with the photovoltaic panels
- 8 lorries with cables and switchgear
- 13 lorries for the inverter/converter buildings
- 10 lorries delivering fencing materials
- 3 lorry delivering security equipment mountings

14.7 Cumulative Impacts

We would like to bring to your attention the following relevant areas which will cause severe cumulative impact affecting local residents;

- 8x wind turbines with planning permission (granted July'15) within 2.5km from the proposed site (G/2011/0052/F & G/2011/0136/F)
- One 225kW single turbine application (G/2011/0018/F).
- Agricultural Vehicles involved in and associated with field work, deliveries of farms located along the Whappstown Road

Overview

Based on this assessment the disruption due to road haul routes fails to fully cover the effects on people and the natural environment that can occur during the construction works. Construction effects are supposedly temporary, but they are likely to be significant, for example causing a localised increase in noise, vibration, dust, dirt and a loss of amenity due to the presence of heavy construction traffic.

Failure to consider emergency appliances or home help for elderly residents, residents with disabilities requiring specialist care have not been considered.

These construction activities will affect routes utilised by different types of user, including pedestrians, cyclists and equestrians. In addition, there is the potential for impacts on the natural environment through disturbance to wildlife, pollution of watercourses, or by the storage of materials on ecologically valuable land.

Construction effects can result in long-term or permanent impacts on areas or features of ecological or historic value. For example, the use of land for temporary construction activities including site offices, storage and temporary road lanes can have a lasting effect on archaeological remains and can sterilise habitats or eliminate individual species. This assessment fails to identify potential impacts that are likely to occur before or during construction, relating to possible disruption to nearby properties and ecological, archaeological and historic areas.

Potentially significant effects which are likely to be anticipated during the construction and use of the haul road of the proposed solar farm are:

- Dust generation causing temporary nuisance to residents and businesses close to the existing junction as well as impacts on vegetation and land quality;
- Longer-term effects on land use, ecology and archaeology due to temporary use of land for construction;
- Disruption of residential areas and the natural environment due to movement and noise generated by construction traffic;
- Safety and security of local residents, workers and road users;
- Surface water and groundwater degradation; and
- Visual impacts.

Based on the assessment there has been a failure to identify possible impacts due to disruptions which include but not limited to the following:

- Estimation of the number of properties within 100m of the proposed haul road, highlighting any properties which are particularly sensitive to disruption.
- Noting the presence of any features of ecological, archaeological or historic value within 100m of the haul road which might need to be protected from adverse impacts (e.g. wildlife areas or watercourses).
- Noting any construction operations which could have a particularly significant impact.

The assessment of the severity of impacts is based on:

- Direct impact on properties.
- Impact on sensitive properties.
- Damage to sites of ecological, archaeological or historic value.

The following table (Table 1.1) notes any features of ecological or archaeological/historic value within 100m of the proposed access area that will be affected by the construction works adverse impacts. The table indicates that there are many features within 100m of the haul roads that are of some ecological value. Woodland indicated in the table consists of roadside belts of mainly non-native species. A badger sett lies within the area of the haul road, and there are potentially bat roosts in the immediate area. Construction activities have the potential to cause degradation of surface and ground waters as a result of pollution by hydrocarbons and cementitious liquors. Pollution of watercourses by release of silt can have seriously damaging effects on fish, invertebrate and plant populations.

Table 1.1: Areas or features of ecological or archaeological/historic value within 100m of the proposed Haul Routes.

Area/Feature Features within 100m of the proposed Haul Routes	Ecological
	Woodland
	Hedgerows
	Mature trees
	Pasture/improved grassland
	Roadside verges
	Scrub
	Possible bat roosts
	Badger sett
	Breeding birds
	Archaeological Rath

CONCLUSION

The purported ES on Traffic & Transportation fails to address the concerns of many residents over many issues

The ES has failed to address the real dangers of the blind junction at Doagh Road / Whappstown Road.

The ES has failed to consider HGV.s passing on the 4m wide Whappstown Road. The ES has failed to take account of the safety of residents and visitors using the Whappstown Road.

THIS APPLICATION MUST BE REFUSED.

Proposed Solar Power Station, Kells: LA03/2015/0234/F**Section 15 Water quality & Fisheries**

We wish to object to application **LA03/2015/0234/F** on the following grounds regarding the water quality assessment within the ES:

1) Section 15.1.3 notes the water quality assessment is a desk-based this is simply unacceptable for a proposed development of this scale size and significance. The propositions are entirely theoretical and not supported by sufficient examples of practical on site testing. The application should be rejected until such time as an independent assessment is prepared which includes sufficient practical on site fieldwork to support theoretical propositions.

2) Section 15.1.2 notes "temporary exposed soil surfaces will be limited to the substation area" and section 15.1.5.3 notes "no significant earthworks required on site as the solar frames will be installed along the contours". It is not credible to suggest the installation or maintenance of over 200,000 solar panels can be achieved without any damage or exposure to soil surfaces. A realistic assessment of the damage that may occur from installing panel frames and the exposed soil surfaces that result is evidenced below with a picture from construction of a solar farm in England. A full and robust soil management plan needs to be provided as part of the water quality assessment.



3) Section 15.1.5.5. notes "run off from solar panels will fall onto the predominantly grassland areas and infiltrate into the soil and existing drainage network". This is a sweeping and unfounded assumption with no evidence to support it. It is fundamentally unsound to assume that rain falling on each row of solar panels will flow evenly into the rain-shadow of the row below and mobilise the same percentage of the ground for infiltration as was available before the panels were installed. In practice because the panels are set at a downward slope and aligned to follow the

contours of the land, rain-water will fall in a column from the lowest corner of each panel, and then form rivulets flowing down through the rain-shadows of the rows below without utilising their whole area for infiltration, thus massively increasing the amount of water run-off from the site. Significant water runoff will in practice mean an unacceptable level of sediment polluting water quality in addition to increased flood risk. An independent assessment using appropriate assumption regarding these run off issues is required as part of the water quality assessment.

4) Section 15.1.6.2. Panel cleaning provides no information whatsoever as to the frequency with which said cleaning will be required and the impact of maintenance staff and machinery having to traverse land to access over 200,000 panels. An example of the soil damage that may occur is illustrated by the picture below from a solar farm cleaning company in England.



It is impossible to assess the potential damage to soil conditions, sediment run off thereafter and thus water quality. A full maintenance plan needs to be provided detailing the frequency of cleaning required, the traffic, noise and the soil impacts thereof. It is inconceivable that one man on a weekly basis will use a whisk to clean 200,000 panels. The department must independently establish the cleaning regime for a 50MW solar power station.

5) The water quality assessment takes no consideration whatsoever of the impact on ground conditions that construction, installation and maintenance will have. Data included within a study prepared by JBA Consulting in 2014 noted that a practical study by NSRI Cranfield in England observed the run off increased from 2% of rain water to 60% (a 30x increase) when soil quality moved from good to poor quality. The assessment of water quality takes no account of the risk that soil quality will be eroded by construction and operation thereafter, in practice soil quality will erode which massively increases the risk of sediment polluting water quality in addition to increased flood risk. An independent water quality assessment on the impact of soil quality including practical on site testing is required.

6) The water quality assessment fails to include an enforceable soil management plan to keep soil in good condition for the duration of the power station life if constructed & for decommissioning thereafter. An enforceable robust soil management plan needs to be provided.

7) The water quality assessment fails to provide for any testing and monitoring by the applicant in the event the power station is ever constructed. To protect water quality the applicant should be conditioned to conduct quarterly water quality assessments throughout the life of the power station and take corrective action where required.

In summary the purported ES conclusion notes "the development is not considered detrimental to the existing water environment". This is based on a purely desktop assessment and fundamentally flawed assumptions that run off will not be impacted by placing over 200,000 solar panels on site. There is an unacceptable risk that run off will increase dramatically with an unacceptable impact on water quality. Furthermore no soil management plan has been provided as part of the water quality assessment which is not acceptable.

I wish to object to application **LA03/2015/0234/F** on the following grounds regarding the fisheries assessment within the ES:

1) Section 15.2.2.1 notes "pollution risk from any chemical products used to clean solar panels - no risk". This statement is false there is clearly a risk if chemical products are on site for cleaning and other reasons they can and may enter the water system impacting fishery and water quality. As already noted with regards to the water quality assessment there is no information whatsoever regarding the levels of movements involved for men and machinery which will be significant given over 200,000 panels will be cleaned multiple times per year. The assessment of fisheries is not fit for purpose as it provides no detail regarding frequency and impact of cleaning and the risks of chemical spillage. This is all against a context of Kells Water being acknowledged as "very high" sensitivity by the applicant.

2) Section 15.2.5.1 notes "potential for increased surface water run-off from the site is low". This appears based on a presumption with no evidence to support it that that rain falling on each row of solar panels flows evenly into the rain-shadow of the row below so as to mobilise the same percentage of the ground for infiltration as was available before the panels were installed. As already noted because the panels are in practice set at a downward slope and aligned to follow the contours of the land, rain-water will fall in a column from the lowest corner of each panel, and then form rivulets flowing down through the rain-shadows of the rows below without utilising their whole area for infiltration, thus increasing the amount of water run-off from the site significantly. Significant water run-off will in practice mean an unacceptable level of sediment polluting water and adversely impacting fisheries. The application should be rejected as 15.2.5.1 is based on inappropriate assumptions.

The water quality and fisheries assessment section of the purported ES is not fit for purpose. A public inquiry must be held so that a full and proper assessment can be made of the potential impacts of this proposal.

Proposed Solar Power Station, Kells: LA03/2015/0234/F

Section 16 Air Quality & Climate

16.1 Introduction

The agent states:

This chapter assesses the impacts on the air and climate arising from the proposed solar PV farm development. As with the majority of engineering projects using plant and equipment, emissions to air are inevitable during the construction phase. However, this relatively short term impact is considered alongside the long term impact of the development. The proposed development will have a net positive impact in producing a renewable energy source and thereby reducing the dependence on fossil fuels.

There is no back up whatsoever to the leading statement about the ‘net positive impact in producing renewable energy’ and this is a bias towards the proposed development. Any claims in respect of potential gains should be factual and backed up by site specific data in respect of what the facility will actually produce. Figures from Germany demonstrate that an increase in renewable energy increased CO2 levels due to the intermittent supply.

The agent’s statement has no basis in fact and shows bias in favour of development in the expectation that no one will seek to substantiate his claims.

The department must hold an independent review of the potential increase in CO2 emissions resulting from dirty energy produced by solar power stations.

16.2 Assessment Methodology

The agent states:

This assessment comprises the following stages:

Consultation with the relevant statutory authorities to help establish baseline conditions and significant concerns in the area;

KellsVOCAL ask what consultation was conducted.

Reading the Pre-app consultation responses, numerous agencies requested additional information and this was not followed up with.

KellsVOCAL are concerned that actual consultation was not undertaken but rather a ‘tick box exercise’ so the line above could be included in the ES.

The agent states:

Site visit and survey to further inform understanding of the existing environment;

KellsVOCAL ask to what extent was a site visit conducted as the ES contains numerous inconsistencies and there have also been numerous concerns with the way surveys were conducted (i.e. conduct of bird surveyor and other site survey of 250 acres that lasted only one day).

Again is this just ‘tick box exercise to include the line above.

The agent states:

A review of Antrim Borough Council and Ballymena Borough Council Air Quality Review and Assessment documents *{These councils areas are now part of the new local government districts April 2015 - the original air quality reports were completed by Antrim Borough Council and Ballymena Borough Council}* (All these documents are summarised in Appendix 16.1);

The application was validated days before the new Council Structures came into place, a new review of policy for both ‘Antrim and Newtownabbey Borough Council’ and Mid and East Antrim Borough Council’ should be undertaken as these are effective new statutory bodies and the legislative context within this application must be determined may well have altered.

The agent states:

Assessment of potential impacts (construction & operational), within the context of the receiving environment;

Absence of a suitable block plan to date makes it impossible to calculate the potential impact during construction or operation, only a schematic site layout plan has been submitted but this does not contain adequate technical data. Once the block plan is available the department can make an assessment of the potential impacts.

The agent states:

A calculation of the net carbon saving of the proposed development;

Biased wording again in favour of the development, this should state ‘net carbon impact’ or ‘net carbon variance’. As this is biased an independent review as the impact on carbon emission must be conducted as experience from other counties as proven that increased renewable facilities actually increases CO2 emissions due to fluctuation in supply. Also there has been no consideration of the carbon expelled in producing the panels, transporting them from wherever they are being produced (presumably Asia but this is not clear) or construction or the decommissioning process.

The department must ask the agent for his calculations on the impact of carbon variance and have these independently verified

The agent states:

Identification of measures and solutions to avoid, minimise or mitigate potential impacts; and,

KellsVOCAL question if mitigation measures been tested?

Do they work? Who would enforce their use in this application?

Has the department scrutinised and assessed the proposed measures?

Assessment of residual impacts, taking account of mitigation measures.

KellsVOCAL ask if this is going to be an independent assessment or a biased assessment commissioned on behalf of the applicant.

On receipt of this assessment the department must have this independently verified.

The agent states:

For the construction phase a qualitative assessment of the potential affects of the construction phase in terms of local air quality, using the Institute of Air Quality Management (IAQM) 2014 guidance. This document provides updated guidance on air quality monitoring in the vicinity of construction sites. It should be read and applied in conjunction with the Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance that was published by the IAQM in 2011.

Constructing buildings, roads and other infrastructure can have a temporary impact on local air quality. The most common of these impacts are augmented particulate matter (PM) concentrations and dust soiling. Depending on the possibility of dust effects occurring, monitoring may need to be undertaken during any demolitions (there is no demolition planned as part of this proposed development) and construction activities to make sure that the applied mitigation measures are effectual in controlling dust emissions, and that there are no significant impacts on the surrounding environment.

There is no assessment of the impact during the decommissioning phase, which is likely to have more impact than the construction phase as structures, arrays and fencing are demolished. The above actually states that “there is no demolition planned as part of this proposed development”.

KellsVOCAL ask how then is it expected to return the site to its original use.

This is an absolute failure and there needs to be independent an unbiased information relating to construction, operation and decommissioning phases separately to ensure that the Department are making decisions based upon reliable information.

The above also states that monitoring may need to be undertaken, who determines this and who enforces it? There is not confidence that this would be handle appropriately if the applicant does not even consider that

demolition is required when it clearly is required during decommissioning. Based on the above the natural conclusion is that the applicant has no plans to decommission the site, it is also not clear what the mitigation measures for construction or decommissioning will be.

The agent states:

The Design Manual for Roads and Bridges (DMRB), Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 1 HA207/07 Air Quality was referenced to consider traffic changes for the construction phase and the operational phase of the proposed development.

16.2.1 Consultation

Chapter 3 of this ES refers to all consultation and scoping exercises undertaken during the Environmental Impact Assessment (EIA) process prior to planning application stage.

Similar rebuttal to the EIA process undertaken on behalf of the applicant has been included.

The following four pages of the agent's statement are "padding" designed to place statements and tables in front of the department that have not been assessed in relation to the application but are designed confuse and trick the department.

The tables below have no relevance to the proposed site as it has not been quantified by any assessments or calculation of the projected impact.

If no assessments have been conducted relevant to how the proposed site may impact on the above figures then it is irrelevant.

If assessments have been conducted then the department must ask how was this measured, where were the measurements taken, how often was it measured, who measured it, what were the results?

Should the department wish to rely on any of this "padding" the department must ask the agent to provide all measurements, calculations etc.

Otherwise go to page 362

16.2.2 Legislation

16.2.2.1 *Air Quality Standards Regulations (Northern Ireland) 2010*

Air quality standards have been developed and incorporated into UK statute in order to protect both human health and the ambient environment. These standards are based on international agreements, which identify performance standards and limit the generation of air quality pollutant at a regional, national and global level.

The Air Quality Standard Regulations (Northern Ireland) 2010 came into force on 11th June 2010. These regulations transpose the following European Union Directives into National Law in Northern Ireland:

- Directive 2008/50/EC on Ambient Air Quality and Cleaner Air For Europe (the Air Quality Directive); and,
- Directive 2004/107/EC (the Fourth Daughter Directive) relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.

The Regulations set out requirements for ambient air quality monitoring, including the number of sampling points, suitable locations, and acceptable methodology. They identify the duties of Northern Ireland's Departments in relation to achieving limit and target values and the responsibility of Departments to inform the public about air quality in Northern Ireland, particularly with regard to warning the public when alert thresholds are reached.

The Air Quality Standards Regulations set air quality standards for a range of air pollutants, including NO₂ and PM₁₀. The UK Government has published an Air Quality Strategy which sets out how the Government proposes to fulfil the UK's obligations under the European Community (EC) Air Quality Directive. The Air Quality Strategy (AQS) for England, Scotland, Wales and Northern Ireland sets out the policy, targets and objectives for air pollutants up to 2010.

Air quality standards represent concentrations that are considered acceptable in terms of health and the environment. They can also be used as an indicator to see if the air pollution is getting better or worse. An exceedance of a standard occurs where the concentration of a pollutant exceeds that set down by the standard over a period of time. The number of days on which an exceedance has been recorded is often reported to make useful comparison between pollutants. The air quality objectives for the UK are presented in Table 16.1 & Table 16.2 shows the UK air quality objectives for the protection of vegetation and ecosystems.

Table 16.1: UK Air Quality Objectives

Pollutant	Air Quality Objectives		Date to be achieved
	Concentration	Measured	
Benzene			
All authorities	16.25 $\mu\text{g m}^{-3}$	Running annual mean	31 December 2002
Scotland and N.Ireland	3.25 $\mu\text{g m}^{-3}$	Running annual	31 December 2002
1,3 - Butadiene	2.25 $\mu\text{g m}^{-3}$	Running annual	31 December 2002
Carbon Monoxide			
England, Wales and N.Ireland	10.0 mg m^{-3}	Max daily running 8-hour mean	31 December 2003

Lead	0.5 $\mu\text{g m}^{-3}$	Annual Mean	31 December
	0.25 $\mu\text{g m}^{-3}$	Annual Mean	31 December
Nitrogen Dioxide	200 $\mu\text{g m}^{-3}$ not to be exceeded	1-hour mean	31 December 2005
	40 $\mu\text{g m}^{-3}$	Annual Mean	31 December
Particles (PM10)			
All authorities	50 $\mu\text{g m}^{-3}$, not to be exceeded more than 35 times a	Daily Mean	31 December 2004
	40 $\mu\text{g m}^{-3}$	Annual Mean	31 December 2020
Particles (PM2.5)	25 $\mu\text{g m}^{-3}$ (target)	Annual Mean	
All authorities	15% cut in	Annual Mean	2010 - 2020
Sulphur Dioxide	350 $\mu\text{g m}^{-3}$, not to be exceeded	1-hour mean	31 December
	125 $\mu\text{g m}^{-3}$, not to be exceeded	24-hour mean	31 December
	266 $\mu\text{g m}^{-3}$, not to be exceeded more than	15-minute mean	31 December 2005
PAH*	0.25 ng m^{-3}	Annual mean	31 December
Ozone*	100 $\mu\text{g m}^{-3}$ not to be exceeded	8 hourly running or hourly mean*	31 December 2005

not included in regulations at present

Table 16.2 - Air Quality Objectives for protection of vegetation and ecosystems

Pollutant	Air Quality Objective		Date to be achieved
	Concentration	Measured as	
Nitrogen dioxide (for protection of vegetation & ecosystems) *	30 $\mu\text{g m}^{-3}$	Annual mean	31 December 2000

Sulphur dioxide (for protection of vegetation & ecosystems) *	30 µg m ⁻³ 30 µg m ⁻³	Annual mean Winter Average (Oct - Mar)	31 December 2000
Ozone *	18 µg m ⁻³	AOT40 ⁺ , calculated from 1h values May-September 2010	01 January 2010

not included in regulations at present

+ AOT 40 is the sum of the differences between hourly concentrations greater than

80 µg m⁻³ (=40ppb) and 80 µg m⁻³, over a given period using only the 1-hour averages measured between 0800 and 2000.

This assessment examines the pollutants of relevance with regard to the proposed construction and operation of the proposed development. Nitrogen dioxide (NO₂) and PM₁₀ (& PM_{2.5} included for completion) are assessed as these pollutants are derived from traffic movements and in particular particulate matter during the construction phase of the proposed development.

The above tables have no relevance to the proposed site as it has not been quantified by any assessments or calculation of the projected impact. If no assessments have been conducted relevant to how the proposed site may impact on the above figures then it is irrelevant. If assessments have been conducted the how was this measured, where were the measurements taken, how often was it measured, who measured it, what were the results?

SHOULD THE DEPARTMENT WISH TO RELY ON ANY OF THE PRECEEDING INFORMATION IT MUST OBTAIN THE RESULTS OF ALL AIR QUALITY TESTING FROM THE AGENT AND HAVE THESE INDEPENDANTLY ASSESSED

THE NEXT FIVE PAGES ARE “PADDING” WITH LITTLE OR NO RELEVANCE TO THE APPLICATION

16.3 Existing Environment

16.3.1 Background Air Quality

Air pollution background concentration maps are published by Defra and to assist local authorities in carrying out Review and Assessment of local air quality as part of their duties under the Environmental Act 1995.

The main purpose of the background maps is to provide estimates of background concentrations for specific pollutants. These can then be used in air quality assessments to better understand the contribution of local sources to total pollutant concentrations. They provide information on how pollutant concentrations change over time and across a wide area; they also provide an estimated breakdown of the relative sources of pollution. The maps allow for the assessment of new pollutant sources that are introduced into an area and the impact they may have upon local air quality.

Estimates of background concentrations of pollutants relevant to local authority air quality review and assessment (oxides of nitrogen (NO_x), NO₂, PM₁₀ and PM_{2.5}) are provided at a 1km² grid resolution.

The National Air Quality Information Archive (NAQIA) includes projections of pollutant concentrations for years from 2008 to 2020 for each 1 km grid square in the UK. This information can be supplemented with reference to historical monitoring campaigns undertaken in the study area or by undertaking a study specific monitoring campaign.

Table 16.3 shows the closest background atmospheric pollution concentrations to the proposed development. All are under relevant EU and UK threshold levels.

Table 16.3: Background Air Quality Concentrations for Proposed Development Site (µg/m³)

Year	Nitrogen Oxide	Nitrogen	Particulate Matter	Particulate Matter
2015	6.1	4.4	10.9	6.5
2016	5.9	4.2	10.8	6.4

These concentrations are all significantly under relevant European and UK standards (Table 16.1). (Location X315500, Y396500 south east of Kells highest background concentrations within 2km of the site boundary).

The background pollutant concentration maps are presented in 1km x 1km grid squares across England, Wales, Scotland and Northern Ireland. The current version of the background maps (reference year 2011) contains estimates for Nitrogen Oxide (NO_x), Nitrogen Dioxide (NO₂), Particulate Matter₁₀ (PM₁₀) and Particulate Matter_{2.5} (PM_{2.5}) for the period 2011 through to 2030.

Source sectors are also split into those emitted from within a grid square and those that enter the grid square from outside. In presenting the data in this way the individual sectors can be subtracted from the total background where a more detailed local assessment is to be carried out for that sector. This approach reduces the risk of double counting pollutant concentrations by avoiding the inclusion of both the estimated background component and the detailed sector component being evaluated.

Nitric oxide (NO) is mainly derived from road transport emissions and other combustion processes such as the electricity supply industry. NO is not considered to be harmful to health. However, once released to the atmosphere, NO is usually very rapidly oxidized, mainly by ozone (O₃), to nitrogen dioxide (NO₂), which can be harmful to health. NO₂ and NO are both oxides of nitrogen and together are referred to as nitrogen oxides (NO_x). Particulate Matter (PM₁₀) less than 10µm in aerodynamic diameter. Particulate Matter (PM_{2.5}) less than 2.5µm in aerodynamic diameter.

16.3.2 Macro & Micro Climate

16.3.2.1 Macro-Climate of Northern Ireland

On a macro scale the dominant feature on Northern Ireland's climate is the Atlantic Ocean. Generally speaking, winters tend to be cool and windy, whilst summers are mostly mild and less windy. Depressions tend to move quickly eastward in December and January, conveying strong winds with substantial frontal rainfall to Northern Ireland. Occasionally, cold anticyclones over Europe extends its influence westwards to Ireland, giving dry cold periods lasting several days. Approaching late June or early July the rise in pressure over Atlantic and an associated fall in pressure over Europe results in a general wind flow at the surface becoming westerly. *This brings air with a long ocean track over Northern Ireland, so that cloud cover, humidity and rainfall all increase. From mid-July, clear nights tend to be accompanied by heavy dew. Warm air masses of high humidity and daytime heating sufficient to cause thunderstorms and may be a regular feature of mid to late summer weather.* Towards the start of August there are infrequent incursions into the Atlantic of cold northerly air masses. *These produce active depressions in late August and September. In September the humid air is readily influenced to increasing periods of cooling by night and fog is frequent around dawn in low-lying districts.*

From late summer through autumn there is a risk of former tropical depressions mixing in with the North Atlantic weather pattern depressions to produce severe storms. These are quite rare but are very significant weather events. July is normally the warmest month in Northern Ireland, with mean daily maximum temperatures varying from about 17.5 °C in the upland areas and along the north coast to almost 20 °C in low lying areas south of Lough Neagh and in Fermanagh (Met Office, 2015). Figure 16.2 shows mean daily maximum and minimum temperature and Figure 16.3 shows mean monthly sunshine and extremes, all information recorded at Aldergrove.

Aldergrove is some distance from the proposed site and also at different altitudes, this renders the enclosed information irrelevant to the proposed development. Given the size and nature of the proposed development a site specific evaluation would have been expected or as a minimum a comparison of the data from surrounding meteorological stations.

Figure 16.2 Mean daily maximum and minimum temperatures at Aldergrove (Source: Met office)

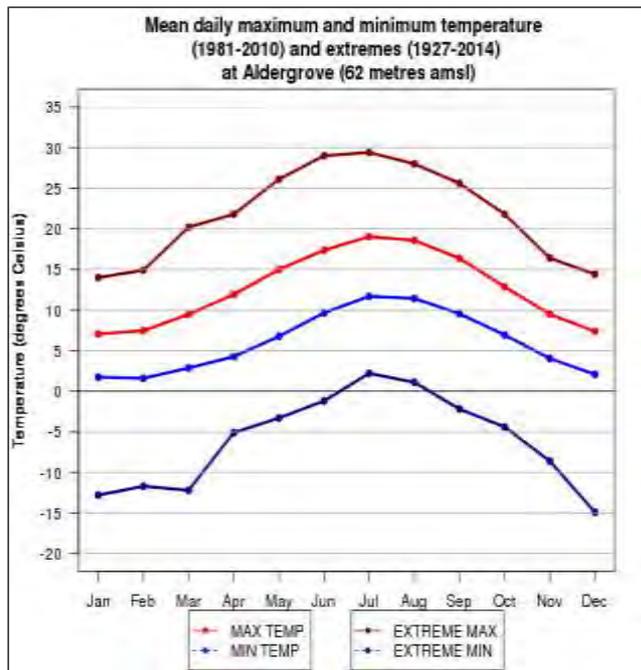
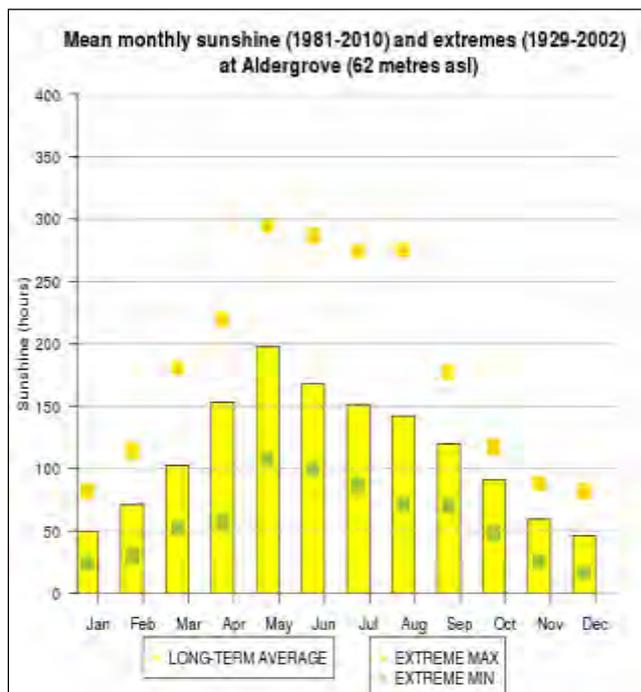


Figure 16.3 Mean monthly sunshine (1981 - 2010) and extremes (1929 - 2002) at Aldergrove (Source: Met office)



16.3.2.2 *Micro-Climate*

The proposed site is located in a rural location northeast of Kells Village and on a site measuring

C.112 ha in area. Subdivided by Whappstown Road, the site also lies south of the A36 Moorfields Road and northeast of Doagh Road.

The closest met office climate station (recording information from 1981 - 2010) is in Portglenone (Table 16.4 below details data gathered between 1981 - 2010) which is located approximately 19.5 km northwest of the proposed development site. This site in Portglenone is a SAMOS site. The Met Office has developed SAMOS (Semi-Automatic Meteorological Observing System) across the UK. These climate stations cover around 300 stations across the UK for which 1981-2010 averages are available. These stations provide an even coverage across the UK and include six mountain stations (above 500 masl) in Scotland and northern England.

Table 16.4 Portglenone SAMOS Climate Station Averages 1981 - 2010

Portglenone SAMOS (Nearest)						
Climate period: 1981-						
Month	Ma x. tem	Mi n. tem	Days of air frost (days	Rainf all (mm	Days of rainf all	Month ly mean wind speed
	(°C)	(°C)				
Jan	6.9	1.7	8.9	91	16	8.7
Feb	7.4	1.5	8.8	60	12	9.5
Mar	9.5	2.8	5.4	77	14	9.2
Apr	11	4.2	2.9	64	12	7.7
May	14	6.5	0.6	64	13	7
Jun	16	9.2	0	70	12	7
Jul	18	11	0	77	14	6.4
Aug	18	11	0	88	13	6.3
Sen	16	9.4	0	79	14	6.9
Oct	12	6.6	0.9	101	16	7.5
Nov	9.4	3.8	4.3	89	15	7.5
Dec	7.2	2.1	8	89	15	7.8
Annual	12	5.9	39	953	173	7.6

**Portglenone SAMOS site
information: Location:**

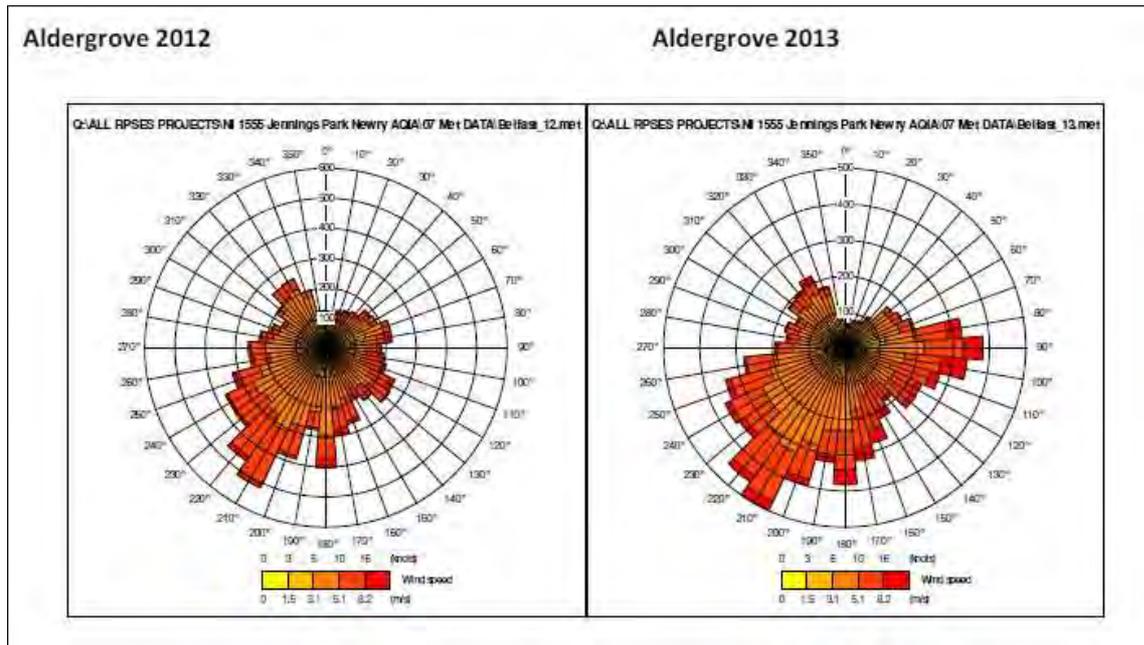
16.3.2.3 *Meteorological Data*

Aldergrove is approximately 15km south of the proposed development prevailing wind direction south west. Dominant wind direction will be taken into consideration when assessing sensitive receptors and potential impact from construction phase dust and particulate matter. Figure 16.4 shows wind roses from Aldergrove recording site.

Altitude: 63 m above mean sea level

Distance from Belfast International Airport: 1.1 km

Figure 16.4. Aldergrove 2012 & 2013 Met Data



16.3.2.4 *Global Warming & The International Kyoto Protocol*

Global warming and the management of emissions with the potential to contribute to global warming are increasingly important on a national and international basis. Global warming has numerous potential implications for Northern Ireland environment, including:

- Greater risk of intense rainfall events leading to greater potential for flooding;
- Changes to habitats and eco-systems;

- Effects on sea levels and river levels; and,
- Increased stress on water resources and potential for over exploitation.

The International Kyoto Protocol was devised in response to rising emissions of the principle compounds contributing to global warming. The Kyoto protocol was subsequently ratified by the European Union in 2005. The main compounds considered to contribute to global warming are Carbon Dioxide (CO₂) and Methane (CH₄). Other compounds have the potential to contribute to global warming but are generally released in much smaller quantities.

Reference to the Kyoto Protocol again draws the assumption that the proposed development will reduce greenhouse gas emissions. This is contrary to the experience from other countries such as Germany where an increase in renewable energy technology actually resulted in increased CO₂ production. If the argument is being made that this proposed development will reduce greenhouse gas emissions then an independent evaluation is required to prove that this will be the case. The ES supplied makes not reference to the CO₂ produced during construction and decommissioning or the efficiency of the installation during operation including how fluctuations in energy productions impact on the grid.

Furthermore rainfall runoff from the arrays will has more potential for scouring and flooding.

Furthermore the solar array would totally change habitats and eco systems.

REFER TO SECTION 3.13 TO 3.16 OF THE SPPS

This eventually led to the European Union (EU) setting a target of reducing GHG emissions from 1990 levels by 20% by 2020. In February 2014 the EU Commission issued proposals for a GHG emissions reduction target of 40% by 2030. The *Climate Change Act 2008*, which extends to Northern Ireland, established a legislative framework to enable the UK to reduce its GHG emissions by 80% from 1990 levels by 2050 and by 34% by 2020.

EMISSIONS RESULTING FROM DIRTY SOLAR ENERGY WILL INCREASE OUR CO₂ EMISSIONS

16.3.2.5 Climate Change & Renewable Energy

The promotion of renewable sources of electricity generation is governed through The Renewable Energy Directive (2209/28/EC). This Directive sets out the European Union target of achieving at least a 20% component of energy to be derived from renewable sources in 2020. In order to help to satisfy this specified target the Directive details binding targets for each EU country. The target for the UK is 15%. Under this Directive national states are required to adopt a national renewable energy plan. Each nation sets out targets for the share of energy from renewable sources. In addition to this each member state is required to submit a report (from end of 2011 and every two years after this date) to the EC to detail progress on likelihood of achieving relevant targets

The Climate Change Act 2008 is UK legislation that extends to Northern Ireland with the consent of the Northern Ireland Executive and Assembly. While there is no specific target or carbon budget for Northern Ireland in the Climate Change Act 2008, it is obviously implicit that Northern Ireland contributes to the UK effort.

Energy policy in Northern Ireland is the responsibility of The Department of Enterprise, Trade and Investment (DETI). DETI has launched a statutory consultation on a draft Onshore Renewable Electricity Action Plan which aims to maximise the amount of renewable electricity generated from onshore renewable sources in order to enhance diversity and security of supply, reduce carbon emissions, contribute to the 40% renewable electricity target by 2020 and beyond and develop business and employment opportunities for Northern Ireland companies. The Strategic Energy Framework 2010 sets a target of 40% electricity consumption from renewable sources and a 10% (half the Renewable Energy Target of 20% by 2020) renewable heat target by 2020.

THE ABOVE IS TAKEN OUT OF CONTEXT.

DETI ONSHORE RENEWABLE ELECTRICITY ACTION PLAN 2013-2020

8. To date, onshore wind has been the main contributor to Northern Ireland's renewable electricity levels which have risen from 3 % in 2005 to just under 15% in 2013. While other technologies, such as hydro, tidal, anaerobic digestion and landfill gas have been increasing, they only contribute just under 1% point of the 14%. Large scale onshore wind is the most mature and cost effective of renewable technologies and as such helps the transition to a low carbon future with less pressure on fuels bills. It will continue to play a key role in renewable generation in Northern Ireland in the medium term.

Large scale solar produces dirty energy. It is the least effective and most costly of all renewables. That is why it has been left out of the DETI onshore renewable action plan.

There is no reference to the current percentage of NI energy supply from renewable sources. This is probably because NI has surpassed the 20% EU targets and the NI assembly are set to review the previously agreed 40% target. It is expected that the 40% target will be reduced following the learning from other Countries where renewables had the opposite effect on CO2 production and increased consumer electricity prices by up to 200%. The reality is that NI cannot afford 40% renewables as renewable energy, contrary to popular believe is not free and as a realization of this tax payer subsidies (ROC Payments) are ending in 2007.

16.3.3 Sensitive Receptors in close proximity to the proposed development

The assessment presented in this report considers potential effects on existing sensitive receptors in the study area during construction and once the development is operational. Sensitive receptors are defined in DMRB HA207/07 as housing, schools, hospitals or designated species or habitats within a designated ecological site. There are no affected surrounding roads or working areas of the proposal within 200 m (From DMRB Volume 11 Section 3 Part 1 Air Quality HA 207/07) of any relevant designated ecological sites (nature conservation sites: SACs, SPAs, spas, ASSIs and Ramsar sites) and therefore assessment of designated sites is not required or discussed further in this report. Sensitive receptors in the vicinity of the proposed development are dominated by housing.

THIS IS COMPLETELY UNACCEPTABLE THERE ARE MANY HOUSES DIRECTLY AFFECTED BY THIS PROPOSAL.

THE LANDOWNER, APPLICANT AND AGENT HAVE FULL KNOWLEDGE THAT THERE ARE DESIGNATED SPECIES OR HABITATS WITHIN A DESIGNATED SITE.

THE EU BIRDS DIRECTIVE bans activities that directly threaten birds.

This is a complete failure on a fundamental consideration and must be noted by the Department.

Nitrogen dioxide (NO₂) and PM₁₀ (and PM_{2.5} included for completion) are assessed as these pollutants are most likely to be present at concentrations close to or above statutory limit values.

16.3.4 Sensitive Receptors - IAQM 2014

The IAQM guidance describes receptors in terms of 'human receptors' and 'ecological receptors'.

A 'human receptor', refers to any location where a person or property may experience the adverse effects of airborne dust or dust soiling, or exposure to PM₁₀ over a time period relevant to the air quality objectives, as defined in the Government's technical guidance for Local Air Quality Management. In terms of annoyance effects, this will most commonly relate to dwellings, but may also refer to other premises such as buildings, housing, cultural heritage collections (e.g. museums and galleries), vehicle showrooms, food manufacturers, electronics manufacturers, amenity areas and horticultural operations (e.g. salad or soft-fruit production). Sensitive receptors in the vicinity of the proposed development are dominated by housing.

An 'ecological receptor' refers to any sensitive habitat affected by dust soiling.

This includes the direct impacts on vegetation or aquatic ecosystems of dust deposition, and the indirect impacts on fauna (e.g. on foraging habitats). For locations with a statutory designation, e.g. Special Areas of Conservation (SACs) and Areas of Special Scientific Interest (ASSIs), consideration should be given as to whether the particular site is sensitive to dust and this will depend on why it has been designated. Some non-statutory sites (i.e. local wildlife sites) and/or locations with very specific sensitivities may also be considered if appropriate. The inclusion or exclusion of sites should be justified in the assessment. Dust from demolition and construction sites deposited on vegetation may create ecological stress within the local plant community. During long dry periods dust can coat plant foliage adversely affecting photosynthesis and other biological functions. Rainfall removes the deposited dust from foliage and can rapidly leach chemicals into the soil. However, large scale construction sites may give rise to dust deposition over an extended period of time and adversely affect vascular plants. For example cement dust deposited on leaves can increase the surface alkalinity, which in turn can hydrolyse lipid and wax components, penetrate the cuticle, and denature proteins, finally causing the leaf to wilt.

There are no affected surrounding haul roads or working construction site areas within 200 m of any relevant designated ecological sites and therefore assessment of designated sites is not required or discussed further in this report.

THIS STATEMENT IS ABSOLUTELY UNACCEPTABLE

The Department must consider the impact on designated species or habitats as the proposed site is currently home to many protected species and the proposed development will have irreversible impact on species such as Curlew. The ES (again though biased in favour of the development) simply bypasses this and has not included any mitigation measures to avoid impacting on the range of protected species and wildlife.

16.4 Impact Assessment

16.4.1 Dust Definition, Deposition Standards and Guidelines

16.4.1.1 Dust Definition

Particulate matter in air is made up of a variety of sizes, and the concept of a size fraction is used to describe particulates within a defined size range. These definitions are based on the collection efficiency of specific sampling methods and each size fraction is especially associated with different types of impact. In this assessment, the term dust is used to mean particulate matter in the size range 1µm - 75 µm in diameter, as defined in BS6069:1994 (BSI, 1994) Dust impacts are considered in terms of the change in airborne concentrations and the change in rate of deposition of dust onto surfaces.

The size fraction called PM10 is composed of material with an aerodynamic diameter of less than 10µm in diameter and overlaps with the size fraction for dust. Air quality objectives for PM10 have been set for the protection of

human health and the term PM10 is only used in the construction assessment when referring to the potential impact of emissions of particulate matter from demolition and construction activities on human health receptors. The short term, 2hour objective for airborne concentrations of PM10 is the appropriate air quality objective for assessing the potential impact on health of short term fugitive emissions from construction sites.

16.4.1.2 *Dust Deposition Standards & Guidelines*

Currently there are no statutory UK or EU standards for use in the assessment or control of nuisance dust. The emphasis of the regulation and control of demolition and construction dust should therefore be the adoption of good working practices on site.

Good design practice is a process that is informed by impact assessments and is able to avoid the potential for significant adverse environmental effects at design stage. This approach assumes that mitigating measures beyond those inherent in the proposed designs are identified as being necessary in the impact assessment and would be applied during the works to ensure potential significant adverse effects are minimised. Examples of accepted good site practice include guidelines published by the IAQM (IAQM, 2014) and Considerate Contractor Schemes.

A qualitative assessment has been undertaken to assess the significance of effects on sensitive receptors. The steps in the assessment process are to consider potential sources of effective dust emissions on the basis of the four main activity groupings of demolition, earthworks, construction and track out. For each activity group, the same steps are applied with respect to potential impacts at identified receptors, before coming to an overall conclusion about the significance of effects predicted.

THIS

Who undertook the qualitative assessment mentioned above and can we see it?

In recent years the TA Luft/VDI 2119/ Bergerhoff Method of dust emission monitoring has become the most commonly used method. The method involves determining a mass dust deposition rate per unit area over a given time period, using a direct collection pot to standardised dimensions of either plastic or glass. The system benefits from being a direct collection method i.e. less transferring of material and consequent reduction in sampling errors. This method is defined as an internationally recognised standard.

The TA Luft/VDI 2119 recommended threshold guidance value is 350mg/m²/day. Below this threshold guideline value dust depositions problems are considered less likely. Monitoring is usually only undertaken if there are significant impacts predicted on surrounding sensitive receptors.

16.4.2 Construction Phase

16.4.2.1 *Potential Sources of Dust from Proposed Development*

Potential fugitive release of pollutants to the atmosphere during the construction phase can be identified as being from emissions from associated machinery & plant and airborne dust from earth movement and general movement in the working areas. With respect to emissions from traffic, construction of the project would generate vehicle movements on the local road network, which would include contractors' vehicles and Heavy Goods Vehicles (HGVs), and other diesel-powered vehicles. This would result in emissions of nitrogen oxides (NOx), particulates (including dust) and other combustion-related pollutants.

It is impossible to quantify the impacts as the type of construction or the construction vehicles have not been expressed. There has been a clear failure in producing a block plan therefore the impact cannot be calculated.

The main emphasis throughout this phase will be to minimise the potential dust impacts at source through appropriate site management, control mechanisms, and practices. It is common practice to use a distance of 100m as the radius within which significant dust effects may occur. However, smaller particles may travel greater distances. Therefore, the consideration of baseline conditions has included an area extending up to 350m (for construction dust) of proposed development site. As indicated in the latest IAQM guidance, nuisance dust effects would not be expected at distances more than 350m from the source (IAQM, 2014). Figure 16.1 shows sensitive receptors and distance bandings (0-20m, 20m-50m, 50m-100m, 100m - 200m, 200m - 350m) from the proposed development site.

There are scores of houses in close proximity to the proposed site

Who would measure and enforce the mitigation measure to reduce the impact of dust to residents and the environment? If it cannot be enforced then it is irrelevant.

Concentration based limit values and objectives have been set for the PM10 suspended particle fraction, but no statutory or official numerical air quality criterion for nuisance dust has been set at a UK, European or World Health Organisation (WHO) level. Construction dust assessments have tended to be risk based, focusing on the appropriate measures to be used to keep dust impacts at an acceptable level. This approach has continued to evolve and in 2014, the IAQM published guidance on the assessment of construction air quality effects.

The traffic flow generated during the construction phase will be associated with the construction traffic, comprising contractor's vehicles and HGVs, diggers, and other diesel-powered vehicles. This traffic flow will result in emissions of nitrogen oxides, fine particles (including dust) and other combustion related pollutants. The operation of these vehicles will be localised. With regard to local air quality, emissions of combustion related pollutants from the construction phase are expected to be negligible. Residual impacts as a result of the proposal are not expected. Impacts during the construction phase such as dust generation and plant vehicle emissions are predicted to be short-lived and only relevant during the construction phase.

The assessment above that the impact would be 'negligible' is not based on any relevant information as the construction types or vehicles required have not been considered due to the failure to provide a block plan.

There is no assessment of the cumulative effect of construction vehicles or even an approximation of how many of each type of vehicle will be required over a certain timeframe. No account has been given of numbers and types of construction plant.

There is again a failure to refer to decommissioning.

Activities or aspects of the site clearance and subsequent construction related activities detailed above that may, in the absence of mitigation, potentially cause dust emissions include the following main sources:

- *Physical disturbance of the land surface during removal of topsoil and overburden (not as prevalent in this proposal due to restricted site clearance for support columns only);*
- *Drop heights of soils from HGV/Loader/Digger;*
- *Disturbance from interaction of HGV movement over soil;*
- *Haulage and light traffic on unsealed roads;*
- *Wind erosion of exposed surfaces including stockpiles and unsealed roads;*
- *Digging of cable trenches and laying cable;*
- *Construction of concrete base for ancillary equipment;*
- *Connection of cables and backfilling of cable trenches; and,*
- *Re-grassing of disturbed ground.*

The potential for dust emissions associated with the above activities is likely to vary depending on weather conditions. Dust emissions are likely to increase in particularly dry and windy conditions and will be affected by wind speed and direction as well as rainfall. The extent of dust generation will also depend on the nature of the dust (soils, sands, gravels, silts etc.) associated with the above activities.

Routine dust control measures would normally ensure that the risk of long-term impacts is insignificant but there is a risk that short-term events may occur, for example, technical failure or exceptional weather conditions.

This is unacceptable

Who would enforce the 'dust control measures' or set the acceptable levels? This is irrelevant if it cannot be enforced or independently agreed.

16.4.1.2 IAQM (2014): Guidance on the assessment of dust from demolition and construction

The IAQM guidance details that, when it comes to the demolition of an existing structure at the proposed development site, a competent individual must assess the site and assign it to one of the three potential dust emission classes:

Table 16.5: IAQM Potential Dust Emission Classes

Class	
Large	Total building volume >50,000m ³ , potentially dusty construction material (e.g. concrete), on site crushing and screening, demolition activities >20m above ground level.
Medium	Total building volume 20,000m ³ – 50,000m ³ , potentially dusty construction material, demolition activities 10-20m above
Small	Total building volume <20,000m ³ , construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <10 m above ground, demolition during wetter months.

(Source: IAQM, 2014, pg. 14)

Demolition Activities

The level of mitigation required differs depending on a number of factors. The potential dust emission class should be used in conjunction with Table 16.6 which assigns the development site a risk category based upon the results of Table 16.5 and the development sites distance to the nearest receptor.

This form of assessment must be completed for both the demolition and the construction phases of development in order to ensure mitigation measures take account of the full potential impact arising from development activities.

**THIS IS NOTHING MORE THAN A CUT AND PASTE EXERCISE.
This document has already stated that demolition will not be required.**

Table 16.6: Risk Category from Demolition Activities

Distance to Nearest Receptor		Dust Emission Class		
Dust Soiling and	Ecological	Large	Medium	Small
<20	-	High Risk Site	High Risk Site	Medium Risk
20 – 100	<20	High Risk Site	Medium Risk	Low Risk Site
100 – 200	20 – 40	Medium Risk	Low Risk Site	Low Risk Site
200 – 350	40 – 100	Medium Risk	Low Risk Site	Negligible

These distances are from the dust emission source. Where this is not known then the distance should be from the site boundary. The risk is based on the distance to the nearest receptor.

The substation site is deemed to be small in nature according to Table 16.5. There is demolition planned as part of this development during the decommissioning stage of the project specifically the demolition of the substation. The risk from demolition is therefore assessed. The closest receptor is located over 200m to the northwest of the substation site. Therefore the risk of dust soiling and PM10 impacts are negligible.

The above is contradictory to earlier parts of the document where it states that demolition is not required. This is the first reference to decommissioning but reference is only made to the demolition of the sub-station, what happens to the panel arrays, fencing, inverter foundations and other development associated with the proposal? There is a clear lack of thought given to the lifecycle of the proposed development.

Earthworks Activities

Earthworks activities involve the excavation, haulage, tipping and stockpiling of materials. Also, such activities can include the levelling of the site and landscaping works. Each site is different and as such, should be assessed on a case by case basis. Table 16.7 gives the potential dust emission classes and Table 16.8 below presents the risk categories for earthworks activities with no mitigation.

Table 16.7: IAQM Potential Dust Emission Classes from Earthworks Activities

Class	Description (not all criteria needs to be met)
Large	Total site area >10,000 m ² , potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving
	moved >100,000 tonnes.
Medium	Total site area 2,500 m ² – 10,000 m ² , moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 4 m - 8 m in height, total material moved 20,000 tonnes – 100,000 tonnes;
Small	Total site area <2, 500 m ² , soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4 m in height, total material moved <20,000 tonnes, earthworks during wetter months.

Total site area is in excess of 10,000m² but the actual amount of land cleared for installation is less than this. The site is deemed to be small in class.

The above classification is not based on any relevant information as none has been provided in terms of type of construction by array, where the access roads within the site will be, where the cables will be laid etc.

Table 16.8: Risk Category from Earthworks Activities

Distance to Nearest Receptor		Dust Emission Class		
Dust Soiling and	Ecological	Large	Medium	Small
<20	-	High Risk Site	High Risk Site	Medium Risk
20 – 50	-	High Risk Site	Medium Risk	Low Risk Site
50 – 100	<20	Medium Risk	Medium Risk	Low Risk Site
100 – 200	20 – 40	Medium Risk	Low Risk Site	Negligible
200 - 350	40 – 100	Low Risk Site	Low Risk Site	Negligible

These distances are from the dust emission source. Where this is not known then the distance should be from the site boundary. The risk is based on the distance to the nearest receptor.

There is a medium risk for properties within 20m from earthworks activities as part of this proposed development.

Ecological risk is not applicable because there are no designated ecological areas within 100m of the proposed construction site boundary.

KellsVOCAL entirely disagree with this statement. There are areas within this site that contain protected species of flora and fauna. See section 7 on terrestrial ecology and ornithology

Construction Activities

Regarding the assessment of potential dust emission class; a number of key issues come into consideration:

- Size of the infrastructure;
- Method of construction;
- Materials used during construction; and,
- Duration of build.

As with assessing all risk categories pertaining to a particular development, each site is different and, as such, should be assessed on a case by case basis. Table 16.9 indicates the potential dust emission classes from construction activities.

It is not acceptable with a site on the scale of the proposed development to simply gloss over the earthworks issue with a general statement as above about a case by case basis. The purpose of this ES should be to at least estimate the impact and given that the majority of the site is north facing, it is fair to assume that a significant amount of earthworks would be required to ensure that south-west facing panels would remain below the specified height.

There are also some references to building earth structures to obscure views in other parts of the ES, this has not then been considered as part of the assessment of impact on air quality during their construction and subsequent 'demolition' to return the land to its original state.

There is no information relating to any preparatory work to establish the soil type, if rock blasting for example would be required. This is wholly unacceptable and as the ES does not even tie in with other parts of the ES, it must render it irrelevant to the Department in terms of reaching its independent determination.

Table 16.9 IAQM Potential Dust Emission Classes from Construction Activities

Class	Description (not all criteria needs to be met)
Large	Total building volume >100, 000 m ³ , on site concrete hatching sandblasting
Medium	Total building volume 25,000 m ³ – 100,000 m ³ , potentially dusty construction material (e.g. concrete)
Small	Total building volume <25,000 m ³ , construction material with low potential for dust release (e.g. metal)

The site is deemed to be small in class, the building material is predominately metal and plastics. Table 16.10 below presents the dust emission class categories which should be taken into consideration when determining potential dust emission arising during construction activities.

How is the site deemed as small if not reference can be made with the construction required as none has been provided.

AGAIN THIS IS A GENERIC DOCUMENT CUT AND PASTED AND MEANINGLESS

Table 16.10: Risk Category from Construction Activities

Distance to Nearest Receptor		Dust Emission Class		
Dust Soiling and PM10	Ecological	Large	Medium	Small
<20	-	High Risk Site	High Risk Site	Medium Risk
20 – 50	-	High Risk Site	Medium Risk	Low Risk Site
50 – 100	<20	Medium Risk	Medium Risk	Low Risk Site
100 – 200	20 – 40	Medium Risk	Low Risk Site	Negligible
200 - 350	40 – 100	Low Risk Site	Low Risk Site	Negligible

These distances are from the dust emission source. Where this is not known then the distance should be from the site boundary. The risk is based on the distance to the nearest receptor.

There is a medium risk for properties within 20m from construction activities as part of this proposed development. Ecological risk is not applicable because there are no designated ecological areas within 100m of the proposed construction site boundary.

The above is based on biased information or guess work and is therefore irrelevant, the Department must seek an independent evaluation of the risk of dust emission during construction and decommissioning phases, which again has been omitted.

The area where the site is proposed is home to many protected species and in particular a breeding ground for Curlew, it is very poor to simply disregard this with a single sentence about no designated ecological areas.

Trackout

Trackout is the transport of dust and dirt from the construction / demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. This arises when heavy duty vehicles (HDVs) leave the construction / demolition site with dusty materials, which may then spill onto the road, and/or when HDVs transfer dust and dirt onto the road having travelled over muddy ground on site.

Concerning trackout impacts; the various factors which can assist in predicting trackout effects as a consequence of the development are:

- Vehicle size;
- Vehicle speed;
- Number of vehicles;
- Geology of the site; and,
- The duration of the activity.

THIS AGAIN IS A GENERIC DOCUMENT. THERE IS SUPPOSED TO BE NO EARTHWORKS OR IMPORTATION OF STONE.

It is not possible to establish the impact of trackout as the type of construction or vehicles required has not been specified. The above is irrelevant without site specific information which may raise particular risk which may require mitigation measures.

Table 16.11 shows the IAQM dust emission classes from trackout. The site is deemed to be small in class due to the number of movements of HDV per day and the restricted length in unpaved road.

Table 16.11: IAQM Potential Dust Emission Classes from Trackout

Class	Description (not all criteria needs to be met)
Large	>50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay
Medium	10-50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50 m – 100 m
Small	<10 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust

Table 16.12 below presents the risk categories for trackout. The proposed development site is deemed to be small in reference to criteria in Table 16.11.

Table 16.12: Risk Category from Trackout

Distance to Nearest Receptor		Dust Emission Class		
Dust Soiling and PM10	Ecological	Large	Medium	Small
<20	-	High Risk Site	Medium Risk	Medium Risk
20 – 50	<20m	Medium Risk	Medium Risk	Low Risk Site
50 – 100	20-100	Low Risk Site	Low Risk Site	Negligible

These distances are from the dust emission source. Where this is not known then the distance should be from the site boundary. The risk is based on the distance to the nearest receptor.

There is a medium risk for properties with 20m from construction activities as part of this proposed development. Ecological risk is not applicable because there are no designated ecological areas within 100m of the proposed construction site boundary.

The above is based on biased information or guess work and is therefore irrelevant, the Department must seek an independent evaluation of the risk of dust emission during construction and decommissioning phases, which again has been omitted.

The area where the site is proposed is home to many protected species and in particular a breeding ground for Curlew, it is very poor to simply disregard this with a single sentence about no designated ecological areas.

Ω e
Summary

Now that the four activities have been assessed in relation to the proposed development, a summary table can be completed articulating the findings of the risk categories as demonstrated in Table 16.13.

Table 16.13: Summary Risk Effects Table

Source	Dust soiling & PM10	Ecological effects
Demolition	Negligible	Not Applicable
Earthworks	Medium Risk Site	Not Applicable
Construction	Medium Risk Site	Not Applicable
Trackout	Medium Risk Site	Not Applicable

THIS IS NOTHING MORE THAN THE AGENT COPYING AND PASTING TO FORM A DOCUMENT THAT HE THINKS WILL GAIN PLANNING APPROVAL.

USING THE PRECAUTIONARY PRINCIPLE THE DEPARTMENT MUST HAVE THIS ANALYSIS CARRIED OUT BY AN INDEPENDENT UTHORITY.

It is not clear how the above information was produced in the absence of any information in respect of the type of construction required for each array, access roads, laying of cables etc. The Department must seek further clarity at least so that the summary of risks provided above can be challenged or undertake an independent review of the risks. The information provided is biased in nature and therefore it is not unfair to conclude that the assessment of risk is equally biased.

The IAQM encourages, following the determination of appropriate risk categories, that site-specific mitigation measures be adopted. “Given the variety of development sites and the individual issues they face, professional judgement should be used to determine the site-specific mitigation measures to be applied” (IAQM, 2014, pg. 23).

The predicted risk effects are without any mitigation in place. When the suggested mitigation measures are employed, the risk of dust and particulate impact on sensitive receptors is negligible. Mitigation measures are detailed in section 16.5.

16.4.1.3 Grid Connection

Connection of the proposed Kells Solar Farm to the Northern Ireland Electricity (NIE) network will be under a separate planning application which will be the responsibility of NIE. It is anticipated that connection will be facilitated from the

proposed on-site substation to the Kells Main Substation. The route of the cable will proceed from the sub-station, located within the site boundary to the north-west, along an existing laneway in a south-easterly direction until it reaches the Whappstown Road. Upon reaching the Whappstown Road it is proposed that the cable route will proceed towards the southwest following the same alignment as Whappstown Road until it reaches the junction with Doagh Road turns southeast along Doagh Road until it reaches the existing lane accessing the Kells Main Substation.

The impact of the cable laying in terms of air quality and dust is negligible and will not pose a significant risk to sensitive receptors. Further information in respect of grid connection is included in Appendix 2.4 contained within Volume II of this ES.

Grid connection is critical to the site given the proposal is the supply all produced electricity to the grid. We understand that this will be determined by a separate planning application but yet the ES states again undermines the impact of dust and air quality with little or no back up information by stating that the impact will be ‘negligible’.

As the cabling to the proposed sub-station is to be laid along the road, it is fair to assume that there will be disruption owing to the cutting and digging of the main road, yet this is not considered in this section of the ES. This would have a significant impact to the many rural residential properties along the roadside, unfortunately no information has been provided to suggest the level of impact or how any impact may be mitigated against.

16.4.2 Operational Phase

16.4.2.1 Increased Road Traffic

The DMRB (207/07) considers the following criterion to determine ‘affected roads’ which have the potential to impact upon ambient air quality at surrounding receptors:

- road alignment will change by 5m or more;
- daily traffic flows will change by 1,000 Annual Average Daily Traffic (AADT) or more;
- heavy Duty Vehicle (HDV) flows will change by 200 AADT or more;
- daily average speed will change by 10km/hr. or more; or
- peak hour speed will change by 20km/hr. or more.

Where none of these criteria are exceeded the impact of the traffic on local air quality can be considered ‘neutral’. The proposals have been examined against these criteria and it is concluded that the impact of the scheme can be considered to be ‘neutral’ in terms of local air quality and no further work is needed.

Can we see the assessments that have been conducted to reach the above determination, so that the reasoning behind the above statement can be measured and challenged if necessary? By failing to produce this information the above statement is irrelevant as there is no back up to prove or disprove the claim, which in itself could be considered biased in favour of development.

Similarly, the regional impacts (DMRB 207/07) and determining an affected road also identifies that it is not necessary to undertake any calculations. The roads affected do not result in a change of more than 10% in AADT. a change of more than 10% to the number of heavy duty vehicles or a change in the average speed of more than 20km/hr.

16.4.2.2 Operation, maintenance, and inspections potential generation of dust and exhaust emissions

As solar farms use photovoltaic modules to produce power which requires no fossil fuels to be burnt there is no associated air pollution.

The above statement is grossly biased in favour of the development and works on an extremely simple principle of renewable energy production must mean CO2 savings. Kells VOCAL are a small community group with limited knowledge, but yet we can find a wealth of information pointing to the issues created by fluctuating supply on the grid. When a cloud goes over or on a rainy day, or at night the fossil fuel consumption has to increase, this continual revving up and slowing down is extremely inefficient and the net result is burning more fossil fuel and creating more CO2. A comparison can be drawn to fuel consumption driving on the motorway at a steady speed compared to constantly slowing down and speeding up.

The Department must undertake independent research into this fundamental issue and not rely on oversimplified and/or biased statements. The assumption that this facility will reduce greenhouse gas emissions, is central to entire application and we believe that it will actually have negative impact on the environment and to air quality regionally and globally.

Once operational, emissions would be limited to maintenance activities and operation of the solar facility. Operational traffic associated with the proposed development will be significantly less than the traffic generation during the construction phase. Operational vehicles will have an insignificant impact upon the surrounding highway network.

The levels of dust and emissions generated are not significant during this phase.

The above statement cannot be justified as there is no information provided on the number of, type of or frequency of maintenance vehicles. It is not clear what activities the maintenance vehicles will be completing or how they will access the site (i.e. dirt roads). Again this statement cannot be scrutinised against the information upon which it was based and we would view it as biased in favour of development.

16.4.2.3 Operation of the proposed development and generation carbon dioxide savings

Connected to the grid, the proposed project would have the capacity to provide electricity to around 15,000 homes, based on Ofgem's figure of 3300 typical households. The proposed project would save the equivalent of approximately 21,500 tonnes per MW of carbon dioxide (CO2) over its lifetime, meaning that the proposed project would be capable of abating about 1,075,000 tonnes of CO2 during its 25-year duration, or around 43,000 tonnes of CO2 per year.

THIS IS A WHOLLY UNSUBSTANTIATED CLAIM WHICH CANNOT BE JUSTIFIED THE DEPARTMENT MUST INSIST THAT THE APPLICANT MUST PRODUCE FIGURES IN SUPPORT OF THE PREPOSETEOUS CLAIMS

16.5 Mitigation

16.5.1 Construction Phase

The project incorporates mitigation measures based on 'good housekeeping' site practices and other measures that would greatly reduce emissions of nuisance dusts. Mitigation measures are proposed in order to alleviate potential problems arising from dust dispersion from proposed site activity.

With suggested mitigation measures in place risk of air quality impact during the construction phase will be controlled and managed by site contractor in conjunction with Mid and East Antrim and Antrim and Newtownabbey Borough Councils. Mitigation will include the following control measures and form the dust management plan (DMP) (This DMP is included in the outline CEMP as part of this ES), it has identified risk allocation, an acknowledgement (confirmed column) of acceptance of risk and a section to verify the application of the relevant mitigation measure.

Has this been agreed with Mid and East Antrim and Newtownabbey Borough Councils prior to making the above claim in the ES?

Mitigation - Communications

Mitigation measure	F	Conf	A
Display the name and contact details of person(s) accountable for air quality and			
Display the head or regional office contact			

Mitigation - Dust Management

Mitigation measure	F	Conf	A
Site Management			
Record all dust and air quality complaints			
Make the complaints log available to the local authority when asked			
Record any exceptional incidents that cause dust and/or air emissions, either			
Monitoring			



Carry out regular site inspections to monitor compliance, record inspection results, and make an inspection log available to the local authority when asked			
Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities			
Dust monitoring will be undertaken in order to monitor the efficiency of dust management. An ambient dust deposition survey is recommended for the duration of the construction phase. The TA Luft (German Government 'Technical Instructions on Air Quality') states a guideline of 250 mg/m ² /day for the			
Operations			
Plan site layout so that machinery and dust causing activities are located away			
Avoid site runoff of water or mud			
Operating vehicle / machinery and sustainable travel			
Ensure all vehicles switch off engines when stationary, no idling vehicles			
Avoid the use of diesel or petrol powered generators and use mains electricity or			
Operations			
Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques			
Ensure an adequate water supply on the site for effective dust/particulate matter			
Use covered skips			
Waste management			
No bonfires and burning of waste			

Mitigation measures for trackout

Mitigation measure	E	Conf	A
The transport of soils or dusty materials should be undertaken in covered vehicles			
Record all inspections of haul routes and any subsequent action in a site log book			
Rumble grids to dislodge accumulated dust and mud prior to leaving the site			

THE ABOVE ARE GENERIC TABLES.

NO ASSESSMENT HAS BEEN MADE FOR THIS PARTICULAR SITE.

THIS ES IS FLAWED

A process for mitigation over the decommissioning phase has been omitted, this is simply not acceptable given the nature and scale of the development.

16.5.2 Operational Phase

As solar farms use photovoltaic modules to produce power which requires no

fossil fuels to be burnt there is no air pollution. Any associated traffic with the operational phase is not significant and will not have a significant impact. Therefore, there will be no impact on the surrounding area and no requirement for mitigation measures during the operational phase.

The Department must undertake independent research into this fundamental issue and not rely on oversimplified and/or biased statements. The assumption that this facility will reduce greenhouse gas emissions, is central to entire application and we believe that it will actually have negative impact on the environment and to air quality regionally and globally.

16.6 Residual Impacts

This section summarises the likely air quality impact associated with the proposed development, taking into account the mitigation measures.

Due to the formulation of an effective dust minimisation plan, it is considered that the dust nuisance is not likely to occur. Based on the predicted changes in traffic during the operational phase of the proposed development the air quality impact of the proposed facility will be insignificant.

As there is no back up information to the statement above the assessment is invalid and must be revisited and independently evaluated.

In terms of residual effects from the operational phase of the scheme, mitigation measures are not considered necessary, as no significant effects on air quality are anticipated during this phase.

The ES gives no detail of how potential dust impacts will be mitigated or the control mechanisms that would be introduced should the development proceed based on information that cannot be tested. There are some very vague and general references to best practice guidelines. There is also no consideration given to the impacts on local businesses such as farms or livery as ecological receptors have simply been dismayed in the ES. The ES lists the activities, which may contribute to dust emission on page 11 but again simply waves these off referring to wind conditions and 'normal control' measures. Without even referencing what control measures are employed there is no way of enforcing these or even knowing if the applicant is giving due consideration to the impact of dust produced.

16.7 Cumulative Impacts

As per Section 5.2 of this ES, a review of planning applications within 5km of the site took place to identify relevant approved and proposed planning applications as well as relevant existing developments within 5km. Cumulative impacts in this instance are defined as the additional changes caused by a proposed development in conjunction with other developments or as the potential combined effects of more than one development. No impacts have been identified for these schemes which act in-combination with impacts identified as part of the proposed development that would result in a greater magnitude of impact than originally predicted.

The ES states that receptors (residential properties) within a 100m radius where dust effects will be significant and 350m where significant affects may occur. It is important to remember that the proposed development abuts residential property and even using diagram 16.1 produced by the developer 16 residential properties are affected at 100m and 71 residential properties are affected at 350m. If this is not significant enough, Kells VOCAL are aware of residential properties that are excluded from this survey, therefore this survey has not been completed properly or robustly.

16.8 Interactions

There are obvious interactions with Chapter 14 Traffic & Transport and associated construction and operational phase traffic. Other interactions are linked to Chapter 12 Geology & Soils and removal of topsoil during the construction phase of the works.

This section of the ES does not even tie into itself as a chapter never mind other sections of the ES, there is only one reference to decommissioning and it is only mentioned, not considered in any way. It appears that the strategy is to blind the reader with figures and jargon to hide unfounded claims of 'benefits' associated with the proposed development.

There is also no reference in section dealing with CO₂ or the greenhouse gas emissions produced in production of concrete for foundations of the solar assemblies, security fence posts, building or other associated development. There is no reference to what type of PV panels are being proposed for use or where they are being produced, therefore the ES does not effectively accommodate the implication in respect of their production or the transport of 200,000 from wherever they are being manufactured (our presumption is Asia) to Kells. The ES does not refer to CO₂ produced during the manufacture of the solar Panels. The ES does not make reference to the CO₂ produced in removal of panels from site during decommissioning or air quality implications during the process of decommissioning of 200,000 panels. The ES does not refer to the transport of panels to wherever they need to go to be decommissioned, we understand there is no facility in UK or Ireland that can decommission the panels due to hazardous materials contained within.



This section needs to be given a lot more considered thought to be of any use within a decision making process. Kells VOCAL believe the report is written in a way which is biased in favour of the applicant and fails to address real issues either by glossing over the detail or simply ignoring the issues completely. We implore the Department to disregard this research

A PUBLIC INQUIRY MUST BE HELD TO ASCERTAIN THE SIGNIFICANT DAMAGE THAT MAY BE CAUSED TO THE ENVIRONMENT BY THIS PROJECT

Appendix 1 – Corrections and Errors

As per the planning application form the site address is, "Lands extending NW and SE of Whappstown Road, **Moorefields**,

Moorefields is in North Carolina

The first sentence of the Introduction 4.1 states that:

'This chapter of the Addendum describes the main alternatives considered during the development of proposals for Kells Solar Farm.'

Thus the reader is already faced, in the first sentence, with the first of many statements that require clarification in the Alternatives section i.e. is there another Alternatives document to which this forms the addendum?

'An item of additional material to be added at the end of a book or other publication
www.oxforddictionaries.com/definition

Please request that the agent clarifies whether or not there is another Alternatives document to which this forms the addendum.

Observation 3: Compounding the error in the LVIA assessment process, is the apparent substitution of LCA with a new characterisation called LCT which is purely the invention of the agent, and without any relationship to the NIEA LCA designations.

This would be like an architect not liking the restrictions placed on development within a Conservation Area and arguing to the Planning Service that the area should be re-characterised by the architect to a new set of rules devised by the architect to permit whatever type of development the architect chose. This would not be entertained and neither should RPS's LCT approach. These LCT designations by the agent carry no weight whatsoever and this section should be disregarded by the decision makers.

Conclusion:

Setting aside the similarity in names of LCA and LCT, which might be seen by some as a means to obfuscate the real issues, no value should be attributed to the prolonged discussion which follows in the LVIA which only serves to override and negate any assessment that should have been carried out by the agent using NIEA's LCA designations (see Observation 2)

3. Both Bird Surveys refer to the proposed development being in a townland in Co Tyrone

Both Bird Surveys state that RPS has been commissioned by Elgin Energy ESco Ltd to:

'Undertake a range of bird surveys within the preferred area for a proposed solar PV farm centred at Mann's Hill 91j185975) in the townland of **Gorestown**, County Antrim.

Gorestown is a townland in Co. Tyrone. This mistake is not just a typing error – it is a totally different place in Co Tyrone.

Please request that the agent clarifies where the survey was carried out so this can be assessed before any decision is made.

(ii) In Point 7.3.3.1 it states that this section should be read in conjunction with Figure 7.1 Habitat Survey Results Map. (Figure 7.1 is in fact entitled Habitat Survey Map, not Habitat Survey Results Map – just a small point but indicative of the generally confusing timbre of the entire ES. The reader is left wondering if there are, in fact, two different maps) All of the various habitat classifications have a reference number such as 'Broadleaved semi-natural woodland (**A1.1**) or Improved grassland (**B4**). However Figure 7.1 has **no reference numbers** to allow cross-reference of the text in the main document to the Figure 7.1.map, making it impossible to know where each are of habitat is located on the map.

Please request that the agent clarifies why the habitat reference numbers do not correspond to Figure 7.1 Habitat Survey Results Map.

(iii) Kells Vocal has been unable to find any map in the ES that contains habitat references such as Running Water (G2), Coniferous Plantation (A1.3.2), and Intact hedgerows (J2.1.) **Please request that the agent supplies details of where to find the map that indicates the precise location of the numbered habitats described throughout Section 7.3.3.1 - Solar PV Farm.**

6 October 2015

Mr Mark H Durkan MLA
Minister of the Environment
DoE Private Office
8th Floor
Goodwood House
44 - 58 May Street
BELFAST BT1 4NN

Dear Minister

Planning Reference: LA03/2015/0234/F

Proposal: Construction and operation of a solar farm with total generating capacity of 50MW. Development comprises: photo-voltaic panels on mounting frames; 1 No. substation; 40 No Inverter stations; 30 No. CCTV cameras (3m high poles); 2.45m high perimeter fence; upgrading of 2 No. existing accesses onto Whappstown Road; internal service tracks; and 2 No. temporary construction compounds.

Location: Lands extending NW and SE of Whappstown Road, Moorefields, Castlegore, Ballymena.

I am writing again on behalf of KellsVOCAL residents' group to formally request that the Department cause a Public Local Inquiry to be held by the Planning Appeals Commission (hereinafter referred to as PAC) or another appointed Inspector to enable a full, transparent and properly informed public discussion of all aspects of the above-referenced proposal. We are currently receiving professional independent planning advice from Community Places.

The reasons set out below are *in addition* to those put forward in our letter to you dated 19 August 2015.

(1) Public Participation

The Department incorrectly validated this regionally significant, major planning application which has resulted in the local community being denied their legislative right under Section 27 of the Planning (Northern Ireland) Act 2011 to a 12-week Pre-Application Community Consultation.

The Planning (Development Management) Regulations (Northern Ireland) 2015 states at Section 12 that '*Section 27 (Pre application community consultation) applies only to applications for planning permission **made** on or after 1 July 2015 and the requirement in Article 3(3) (e) of the Planning (General Development Procedure) Order Northern Ireland 2015 (GDPO) shall not apply before that date [Added Emphasis].*

The correct interpretation of a 'made' planning application under Section 12 is one that is submitted and *correctly* validated. This interpretation was verified under planning appeal PAC Ref. No. 2006/A2451 (Appendix 1). An application submitted and *correctly validated* therefore before 1 July 2015 would not be subject to Article 3(3) (e) of the GDPO.

A planning application can only be deemed valid if it is accompanied 'by such other plans and drawings as are **necessary** to describe the development to which it relates' (Article 3 (3) (b) GDPO) [**Added Emphasis**]. A scaled block/layout plan (i.e. not merely indicative) as well as cross sections through the site are necessary to allow the Department and any member of the public to assess the exact location(s), scale, appearance and potential impact of the proposal. In particular, the sectional drawings would show the visual impact of the proposal on the subject site which rises from 120m to 160m AOD on lands west of Whappstown Road and 140m to 170m AOD on lands east of same. The submitted proposal should not have been validated and indeed is still invalid as these drawings have still not been submitted.

This planning application was not valid at the time it was submitted as there were plans/drawings critical for information purposes and for the assessment of the application that were not submitted. The incorrect validation of this proposal has denied the local community their right to a 12-week Pre-Application Community Consultation process for this unprecedented, complex planning proposal for the largest solar farm in Europe. This denial of the community's right to participate can only now be rectified through a Public Inquiry.

(2) Planning Policy & Precedent

The Strategic Planning Policy Statement for Northern Ireland (SPPS) was published on 28 September 2015. There is no new policy or provisions within the SPPS relating specifically to solar energy to enable a proper assessment of this unprecedented large-scale solar energy proposal. Our concern relating to policy raised with you in our previous letter dated 19 August 2015 remains valid; the Department does not have adequate planning policy or guidance currently in place to assess an application of this size, nature and complexity.

The EIA submitted with this proposal clearly demonstrates the lack of policy and guidance. The Landscape and Visual Impact Assessment (LVIA) relies on the Supplementary Planning Guidance 'Wind Energy Development in Northern Ireland's Landscapes' that accompanies PPS 18 (Appendix 2). This confirms beyond doubt the lack of guidance for this type of proposal. The SPG provides broad, strategic guidance in relation to the visual and landscape impacts of *wind* energy development. The guidance sets out the background to the landscapes of Northern Ireland, and to *wind* energy development in these landscapes. The guidance in particular;

- Explains the approach and methodology that was used to assess *wind* energy development in relation to the landscape of each Landscape Character Area;
- Contains general principles and guidance relating to *wind* energy development in the landscape and associated sensitivities, opportunities and

challenges. This includes principles and guidance relating to site selection, siting, layout and design and the assessment of landscape, visual and cumulative impacts;

- Considers cumulative *wind* energy development in Northern Ireland's distinctive landscapes in October 2007 and highlights landscape issues that need to be carefully considered in the future;
- Provides practical guidance relating to the use of this guidance and the preparation and submission of *wind* energy proposals.

The SPG is clearly written for wind energy. Reliance on this guidance for this large-scale solar application confirms that the Department has inadequate policy and guidance for this proposal and proposals of similar nature, size and scale.

As a consequence of this lack of policy and guidance, gaps and inconsistencies in the content, the processing and the assessment of this large-scale solar application and similar applications will go undetected resulting in decisions being taken, with potentially major impacts, without adequate assessment, scrutiny or consistency. By way of example, a similar application for a 50MW solar farm and ancillary development was submitted to Antrim and Newtownabbey Council on 30 June 2015 (LA03/2015/0262/F). The facts and figures submitted to demonstrate socio-economic benefits and environmental improvements *differ significantly* for these two applications for solar farms of the *same capacity*, (Appendix 3).

	Kells 50MW solar farm application LA03/2015/0234	Dublin Road 50 MW solar farm application LA03/2015/0262
Reduction in annual CO2 emissions	43,000 tonnes	18,6000 tonnes
Employment during installation	214 FTEs	40 people
Expenditure to operate and maintain facility	£1 million per year	£250,000 per year

The lack of planning policy and guidance will seriously undermine and compromise any decision taken on this planning application and similar planning applications for large-scale solar farms recently lodged in Northern Ireland as demonstrated above. A list of pending large scale solar projects at Application/PAN and PAD stages is attached at Appendix 4. The list shows that there is over 200MW of proposed solar energy projects currently in the system, 80MW (40%) of which was submitted in the August/September 2015 alone. It is likely that solar companies such as RAD Energy, Lightsource SPV and Elgin Energy will continue now to lodge large-scale solar proposals in an attempt to be accredited under the current NIRO scheme which will close to new (non-wind) generation from 1 April 2017.

Any decision taken on this large-scale solar proposal will set a precedent for all these applications currently in the system and those that will be submitted in a bid to meet the NIRO closure deadline. It is therefore critical that an application of this

size, scale, nature and complexity is considered and scrutinised through a Public Inquiry to address and agree gaps in policy and guidance to ensure a reasonable and informed planning decision is made which will in turn be used to assess and ensure consistent decision-making on similar applications. For this reason alone it would be best if this proposal was heard through a Public Inquiry.

(3) Council support for a Public Inquiry

Mid and East Antrim Council Chief Executive Anne Donaghy responded on 21 September 2015 to our recent presentation to Council where we highlighted our concerns regarding the potential impact of the planning proposal, the lack of public consultation on this unprecedented scheme for a 50MW solar in Northern Ireland which, if approved, will be the largest in Europe and the lack of planning policy and guidance against which to assess it. The Chief Executive confirmed in her response that Council, as a corporate body, will also be requesting that the Department allows a Public Inquiry to be held on the matter, Appendix 5.

Summary

The Department would be best informed by the expertise and discussions held through a Public Inquiry to inform and assist the Department and you in reaching a decision on this application. The overall aim is to ensure that all information is made available, expertise is sought and shared, and gaps in planning policy and practice are addressed. An Inquiry in this case, as agreed by Mid and East Antrim Council, would provide transparency and public confidence in the decision which you ultimately reach.

We hope you will give careful consideration to this request which sets out grounds, in addition to those outlined in our letter dated 19 August 2015, for a Public Local Inquiry. We look forward to hearing from you in early course.

Yours sincerely

Ed Crawford
Chairperson
KellsVOCAL

Enc

Appendix 1: PAC Ref. No. 2006/A2415

Appeal Decision

Park House
87/91 Great Victoria Street
BELFAST
BT2 7AG
T: 028 9024 4710
F: 028 9031 2536
E: info@pacni.gov.uk

Appeal Reference: 2006 /A2415
Appeal by: Mr & Mrs W Irwin against the refusal of full planning permission.
Development: Dwelling.
Location: 200m east of 79 Kilhoyle Road, Limavady.
Application Reference: B/2006/0164/F.
Procedure: Written Representations and Accompanied Site Visit on 25th February 2009.
Decision by: Commissioner Ian Fernie, dated. 24th March 2009.

Decision

1. The appeal is allowed and full planning permission is granted, subject to the conditions set out below.

Reasons

2. The key issues in determining this appeal are, firstly the adequacy of the information submitted with the application at the date it was originally lodged; and secondly the extent to which the proposal would adversely affect the character of the countryside by its potential to, - create ribbon development, contribute to an unacceptable level of build up, or fail to integrate into that countryside.
3. The site, roughly rectangular in shape, measures 0.4 ha., and lies just off, and some 10m below, Kilhoyle Road, 3km east of Drumsurn. It occupies a clearing in an area of mature woodland subject to a Tree Preservation Order, and would be accessed by way of an extension to a recently constructed laneway serving a new dwelling house on Site No 3, and further approvals for dwelling houses on the Sites Nos 3 and 4 (Planning History Map {PHM} refers).
4. The reference in the Ministerial Statement of 16th March 2006 relating to the status and role of draft Planning Policy Statement 14 (dPPS14) in determining "*all planning applications*" received after 16/03/06 has been correctly interpreted by the Department as applying only to "valid" planning applications which fulfill the description in Article 20(1) of the Planning (Northern Ireland) Order 1991, and as further specified in Article 7(1) of the Planning (General Development) Order (Northern Ireland) 1993. Consequently any "application" submitted prior to that cut-off date but which did not meet these specifications laid down as regards form and content can be deemed invalid and thus ineligible to be considered under the previous policy regimes. The appellant's contention that the Ministerial

Statement can be interpreted as applying to planning applications deemed to be invalid as well as to valid planning applications is not sustainable.

5. This then raises the issue of whether the application as submitted on 16th March 2009 was adequate and fit for purpose as regards the provisions of Article 7(1) of the 1993 General Development Order (GDO) which requires the submission of "*any other plans and drawings and information necessary to describe the development which is the subject of the application*". It is this legislative criterion which must be met and not the details listed in the Department's notes incorporated in Form P1 which can only be for guidance purposes and must be subordinate to the legislation. I agree with the appellant that notwithstanding the omission of floor plans, the drawings and information submitted as part of the application on the 16th March 2006 were sufficient to allow the Department, and any member of the public, to identify the location, and assess the scale and appearance of the development being applied for, and to allow the processing of the application to commence. The missing information relating to floor plans could have been properly sought at a later date as "*further information*" as provided for under Article 7 (4) of the 1993 GDO.
6. I find therefore that the application as lodged on the 16th March was valid and that consequently the appeal fails to be determined under the provisions of a Planning Strategy for Rural Northern Ireland, 1993, and more particularly under the environmental considerations outlined in policies DES5, DES6 and DES7 of that document. Accordingly the first reason for refusal has not been sustained.
7. From the additional critical viewpoint relating only to the second reason for refusal, identified as approaching the site from the east along Kilhoyle Road, the 3 plots on Sites Nos 2 & 3 would share a common frontage on to that road with the appeal plot (PHM refers). However, due to the appeal site sitting well below road level, and the effective screening along the roadside provided by the established woodland there would be no strong visual link between the appeal development and the adjacent existing and approved buildings. The criteria for establishing ribbon development would not therefore be met. As regards viewpoints Nos 1-5 identified on Legavallon Road, the concept of ribbon development requires buildings to have shared frontages to the road from which any such ribbon would be visible. Neither the appeal site nor its adjacent properties have a frontage on to Legavallon Road therefore ribbon development would not occur as a result of the proposal. The second reason for refusal has not been sustained.
8. Because of the extensive tree cover provided by the protected woodland enjoyed by both the appeal site and the adjacent Site No 4, there would be little or no inter-visibility between these two proposed developments. There is a more marked degree of inter-visibility between the new buildings on Sites Nos 1 and 3, and this would be intensified by the further approval on Site No 3 reading clearly with these buildings and with the replacement dwelling planned for Site No 2, creating a sense of build up to the west of the appeal site. I am satisfied however that there would be no significant inter-visibility between the appeal proposal and these existing and proposed buildings further west and therefore the development would not contribute further to any existing feeling of build up in the immediate locality. Accordingly the third reason for refusal has not been sustained.

9. The critical views of the site from Legavallon Road are at a long-distance distance, from 0.75 to 1.1km, across a valley and would show that the proposal would benefit from an effective backdrop provided by its hillside location and the mature trees which surround it on all four sides. Consequently the new dwelling would be sympathetically located within the natural contours of the landscape and would be markedly less conspicuous than the new dwellings and outhouses on Sites Nos 1 and 3 and the further approval on Site No 3 (PHM refers). The appeal site would enjoy an almost identical setting to that of the adjacent development on Site No 4, granted on appeal in November 2006, (2005/A600) and like that development it would not be unduly prominent in the landscape thus facilitating its integration into the countryside. The fourth reason for refusal has not been sustained.
10. I note that the access to the recently built house on Site No 3 has not been constructed as per the block plan submitted in the appellant's Statement of Case or as per the approval for that dwelling. I am of the opinion however that the access as now constructed is more respectful of the existing topography and the vegetation around the site than that previously approved and should, by use of condition, be retained as the means of access to the appeal development.

Conditions

- (1) Except as expressly provided for by Conditions Nos. 2, 3, 7 & 8, the following reserved matters shall be as approved by the Department – the siting, design and external appearance of the dwelling, and the means of access thereto.
- (2) The dwelling shall be sited as shown on the Block Plan Scale 1:1000 dated Jan. '09 and numbered PAC Plan No 1.
- (3) No development shall take place until a plan has been submitted for the approval of the Department showing the alignment and profile of the access laneway as constructed to serve the adjacent developments approved under permission B/2006/0013/F and appeal 2005/A600 and access to the development hereby approved shall be by way of that shared access.
- (4) No development shall take place until there has been submitted to and approved by the Department a landscaping scheme providing for the retention of trees and hedgerows along all boundaries of and within the site and the location, numbers, species and sizes of trees and shrubs to be planted along the plot's southern boundary. The scheme of planting as finally approved shall be carried out during the first planting season after the commencement of the development. Trees or shrubs dying, removed or becoming seriously damaged within five years of being planted shall be replaced in the next planting season with others of a similar size and species unless the Department gives written consent to any variation.
- (5) All trees subject to the Tree Preservation Order dated 4th September, 2006 save those required to be felled for the construction of the access shall be permanently retained.
- (6) No development shall take place until measures have been agreed in writing with the Department to protect those trees to be retained within the site from damage during construction works. The measures as approved shall be put in place before the commencement of development and retained during the construction period.

- (7) No development shall take place until plans and sections indicating existing and proposed ground levels and proposed finished floor levels, all in relation to a known datum point shall be submitted for the approval of the Department. The drawings shall also indicate the location, height and materials of any proposed retaining walls, and shall show that any underbuilding shall not exceed 0.5m at any point above existing ground level.
- (8) The development shall be begun before the expiration of five years from the date of this permission.

This decision relates to:

- 1) Drwg 01 Site Location Map Scale 1:2500 dated Mar 06
- 2) Revised Block Plan Scale 1:500 , dated Jan 09
- 3) Drwg 03 Floor Plans scale 1:100 dated Feb 06
- 4) Drwg 04 Elevations / Section Plans Scale 1:100 dated Feb 06.
- 5) Drwg 05 Elevations / Section Plans Scale 1:100 dated Feb 06 “

COMMISSIONER IAN FERNIE

Appendix 2: LA03/2015/0234/F ES Excerpt - Landscape and Visual Impact Assessment

- Numerous small villages.
- Archaeological remains including raths, stone circles, standing stones and chambered graves.

6.5.3.2 *Landscape Condition and Sensitivity to Change*

NIEA state, within the Landscape Character Assessment that 'the landscape appears rather degraded due to the neglect of field boundaries and pasture, especially towards the valley bottom. The presence of a multitude of electricity pylons, especially around Hillhead where they converge at a power station, intrudes into the rural setting. The steeper slopes, on the fringes of the upland areas to the north, are particularly sensitive to change. Elsewhere, the landscape's sensitivity to change is increased by views from the surrounding uplands. There is some scope to accommodate a variety of development, provided it is associated with tree planting to provide an appropriate level of screening.

6.5.3.3 *Principles for Accommodating New Development*

NIEA state within the Landscape Character Assessment that larger scale development could be screened using woodland planting, which would provide opportunities to extend and improve the existing woodland network by linking hedgerows and shelterbelts.

6.5.4 *Review of Wind Energy Development in Northern Ireland's Landscapes*

Whilst the proposed development is not a wind farm, the Supplementary Planning Guidance that accompanies Planning Policy Statement 18 'Renewable Energy' (PPS 18), provides an overview on landscape sensitivities and landscape value for each of the Landscape Character Areas identified in the "Northern Ireland Landscape Character Assessment, Environment and Heritage Service Research and Development Series, Nr 99/5" document.

6.5.4.1 *Overall Sensitivity*

The LCA 115 Tardree and Six Mile Water Slopes has been identified as having an overall 'high' sensitivity as it is a visually prominent landscape, with upper slopes forming important skyline ridges, particularly when viewed from adjacent lower lying area. The outlier hill of Donegore has been identified as being especially sensitive.

6.5.4.2 *Location and design considerations*

It is considered that the proposed development is in keeping with the recommendations outlined for the Tardree and Six Mile Water Slopes LCA, in that the proposed development;

- does not impact on prominent ridgelines;
- is located away from the outlier, Donegore Hill;
- relates well to the underlying field and lane patterns;
- does not adversely impact on archaeological sites; and
- does not adversely impact on long distance views from nearby settlements or from the Ulster Way.

6.5.5 *Local Landscape Character Types*

The study area can be described by use of distinctive Local Landscape Character Types (LCT) (Refer Volume 2; Appendix 6.1; Figure 6.3) as follows:

- Upland Hills and Slopes;
- Undulating Agriculture; and
- Urban landscape.

6.5.5.1 Upland Hills and Slopes

The elevated slopes and tops of Douglas Top, Black Top and Brae Hill to the north of the development site, rise to 400m AOD and form a strong sense of enclosure to northern views. Elliotts Hill and Big Collin, lie to the east of the development site and rise to 350m AOD, forming a distinctive focal point from within the River Valley LCT. Elevated slopes and tops associated with Tardree Mountain and Tobernavene Hill, to the south of the study area, rise to 300m AOD and are visible from within much of the lower lying river valley LCT. Extensive tracts of coniferous forestry are present on Tardree Mountain, which extend the perceived horizon in southern views. These elevated locations offer extensive, panoramic views of the surrounding landscape and contrast with the more productive agricultural landscape being characterised by more open moorland habitats. Housing is scarce on the more elevated slopes and hill tops but frequent and sporadic on the side slopes. Wind turbines at Elliot's Hill and Wolf Bog are located within this landscape and are significant features in the local landscape. Quarrying activity is conspicuous, whilst a number of roads criss-cross this landscape.

This LCT is considered to have a high sensitivity to change.

6.5.5.2 Undulating Agriculture

To the west of the elevated, upland landscape lies a broad river valley containing the meandering Kells Water which runs generally east to west across the study area. This lower lying valley landscape is dominated by agricultural use, with the river generally obscured in views by riparian woodland and tree cover along its banks. The landscape contains good quality agricultural land with well defined field boundaries of often tall hedgerows and frequent trees and woodland blocks that form a strong sense of enclosure and restrict views.

Blocks of deciduous woodland are found particularly along the banks of the Kells Water and around the many farms. Housing within the LCT is generally located adjacent to the minor, B class and A class roads that cross this landscape. The majority of the roads within this LCT are often enclosed by tall hedgerows and hedgerows with trees.

This LCT also contains the electrical sub-station and associated high voltage pylons which form distinct vertical elements within the landscape, though such vertical elements are often difficult to discern within southern views due to backdrop of elevated slopes and woodland.

This LCT is considered to have a medium sensitivity to change.

6.5.5.3 Urban Landscape

The main areas of urban development are Kells and Connor, to the west and Moorfields to the north of the study area respectively. The urban landscape associated with Kells and Connor consists predominantly of two storey residential properties with commercial components at street level. The settlement fronts onto the B53 and B98 roads, turning its back on the surrounding countryside.

Moorfields to the north, is more linear in character with much of the urban form located to the north of the A36. The Urban form contains coachworks, primary school and transport depot with two storey properties adjacent to the A36.

The urban landscape is robust and is considered to have a low sensitivity to change.

6.6 Landscape Designations

6.6.1 Area Plans

The relevant area plans for the proposed development are the Antrim Area Plan 1984-2001 and the Ballymena Area Plan 1986 - 2001.

**Appendix 3: Environment, Social and Economic Benefits
(LA03/2015/0234/F & LA03/2015/0262/F)**

Key Messages of the Report

The key messages of this independent socio-economic impact assessment of the proposed Kells Solar Photovoltaic (PV) Farm are summarised here. The reader is advised to consider the details in the main body of the report and the Executive Summary.

- ❖ **Significance as a Major Renewable Energy Project for Northern Ireland**
 - The installation would be one of the largest solar facilities (grid-connected) in the UK and the largest solar energy project on the island of Ireland, capable of generating approximately 50 megawatts (MW) of clean, renewable electricity annually.
- ❖ **Policy Relevance**
 - The proposed project is relevant in the context of the EU's aim of encouraging more private sector investment in renewable energies, in order to diversify energy supply and address security of supply to enable a more competitive and sustainable low carbon EU energy sector.
 - The proposed project is timely given the ambitious common renewable target to which both administrations on the island of Ireland are committed to achieving by the end of the decade, namely that 40% of all electricity consumed will come from renewable sources by 2020.
 - The island remains dependent on imported oil and gas to meet its energy needs and the majority of the electricity generated and consumed originates from fossil fuels presently. The proposed project would markedly enhance the contribution of solar energy to the mix of renewable energies, thereby helping to diversify the sources of clean, carbon-abating energy sources on the island, and in turn helping to combat climate change.
 - The proposed project is also relevant in the context of the 2012 Economic Strategy for Northern Ireland, which aims to broaden the mix of economic activities and ensure a more economically competitive NI – the planned installation would provide important new renewable energy infrastructure, create new employment and send out a positive signal regarding NI, which has the potential to make the region more attractive to inward investment.
- ❖ **Socio-Economic Impacts**
 - Employment during the installation phase would see the creation of 214 direct full-time equivalents (FTEs), in turn triggering an estimated 355 FTEs elsewhere in the local economy through indirect and induced effects (i.e. from knock-on business-to-business supply chain impacts and household/final consumer impacts).
 - A further 14 FTEs per year would result in the operational phase, consisting of 5 FTEs directly engaged with the operation and maintenance of the proposed installation and an additional 9 FTEs created or sustained through the project's wider economic stimulus.
 - The employment impacts are significant when set in the context of the 154 unemployment claimants in the Kells, Glenwhirry, Parkgate and Shilvodan Wards in the vicinity of the proposed project recorded in January 2015; and the employment impacts are also noteworthy in the wider context of the 2,355 unemployment claimants recorded in the Ballymena and Antrim local authority districts in January 2015.
 - Connected to the grid, the proposed project would have the capacity to provide electricity to around 15,000 homes. It would save the equivalent of approximately 21,500 tonnes per MW of carbon dioxide (CO₂) over its lifetime, meaning that the proposed project would be capable of abating about 1,075,000 tonnes of CO₂ (gross) during its 25-year duration, or around 43,000 tonnes of CO₂ per year.
 - To give some perspective to the potential significance of the proposed project, the proposed Kells Solar PV Farm would be capable of providing the electricity needs of more than three times the number of households in the combined Kells, Glenwhirry, Parkgate and Shilvodan Electoral Wards annually, these being the Wards in the immediate vicinity of the proposed project.
 - The estimated overall monetised economic gain from the proposed project is estimated at £47.6m, over both the installation and operational phases. This figure comprises: £13m in gross value added (GVA); £13.63m in revenue to the NI Executive (exchequer contribution); higher consumer surplus from lower solar electricity prices of £0.46m; and lowering of the social cost of carbon to the tune of £20.51m.
 - While these benefits are considerable, they are still likely to underestimate the long-term economic impacts from the proposed project. Given the importance now placed by FDI (foreign direct investment) firms on renewable energy, including IT, data centre, software and international services companies, the positive signal emanating from the proposed installation has the scope to enhance NI's attractiveness as a host location for foreign direct investment in the coming years.
 - The socio-economic impacts attributable to the proposed project are all consistent with the goals set out in the Economic Strategy for Northern Ireland (2012), including skills acquisition and development, and tackling the sources of deprivation and fuel poverty.

Environmental Social and Economic Benefits

5.14 The benefits associated with the scheme are considerable and weigh heavily in favour of approval of the planning application. The environmental benefits are highlighted throughout this statement. The socio-economic impacts of the proposal may be summarised as follows (inter alia):

- Overall financial outlay to build the solar farm - £43.0 million
- Outlay, excluding cost of imported solar panels -£25.0 million
- Direct financial payments to local companies/employees - in the order of £3.5 million
- Employment during construction - approximately 40 people working for eight months
- Ongoing maintenance spend of approximately £250,000 per annum
- Lease payment to landowner, which will enhance the viability and spending power of the farm and create ongoing positive spin-offs within the local economy and community
- Production of 40,800,000 kWh of electricity per annum from a totally renewable source, which is equivalent to the annual electricity needs of some 9,700 homes
- Reduction in annual CO₂ emissions by around 18,600 tonnes
- Increased security of electricity supply within Northern Ireland

There is a recognised need to develop renewable resources, which is supported by many government policy initiatives, including the promotive planning policies of PPS18. The benefits of the scheme summarised above are of significant positive material weight in the determination of the planning application.

Appendix 4: Pending Solar Farm Applications (NI) Sept 2015

Pending Solar Farm Applications – September 2015

Ref No	Submit	Applicant	Location	Proposal	MW
V/2015/0038/F	Mar 25, 2015	Lightsource SPV 18 LTD	Land at Dobbs Estate Tongue Loanen Road Carrickfergus	Installation and operation of a solar farm and associated infrastructure including PV panels mounting frames inverters transformers substation pole mounted CCTV and fence	21.8
LA09/2015/0676/PAD	Aug 14, 2015	Dale Farm	Dale Farm Factory Moneymore Road Cookstown	Solar Farm	4.9
LA06/2015/0389/F	Jul 6, 2015	RAD Energy Two Ltd	Lands located south-west of junction of A2 Belfast Road and B170 Ballysallagh Road Bangor (bounded by Belfast Road Ballysallagh Road and Clandeboyne Avenue)	Proposed solar farm and ancillary development	10.9
LA05/2015/0305/F	Jun 30, 2015	Lightsource SPV 35 Ltd	Lands approximately 180m south of 7a Lough Road Upper Ballinderry Co Antrim BT28 2PQ	Full application for the installation and operation of a solar farm and associated infrastructure including photovoltaic panels mounting frames inverters transformers substations communications building fence and pole mounted security cameras	6.55
LA05/2015/0157/F	May 19, 2015	RAD Energy One Ltd	Lands immediately north east of the junction of Ballinderry Road and Moneybroom Road Lisburn.	Extension to Solar Farm approved under S/2014/0492/F.	6.5
LA03/2015/0446/PAN	Sep 15, 2015	Elgin Energy Esco Ltd	Lands North and South of the M2 Motorway approx. 950m East of Dunsilly Roundabout. Lands at the North begin approx. 80m South of 102 Steeple Road extending to approx. 370m East of 16 Kilgavanagh Road at the lands most westerly extremities.	Construction and operation of a solar farm with a total generating capacity of 25MW. Development comprises photovoltaic panels mounting frames 1 no substation 18 no inverter stations 12 no CCTV cameras (3 meters high) and ancillary construction works	25
LA03/2015/0382/PAN	Aug 18, 2015	Aidan Collins Lightsource Renewable Energy Ltd	Lands approximately 170m Southeast of 49 Long Rig Road Nutts Corner Crumlin BT29 4SY	Full application for the installation and operation of a solar farm and associated infrastructure including photovoltaic panels mounting frames inverters transformers substations communication building fence pole mounted security cameras	5
LA03/2015/0370/PAN	Aug 17, 2015	Lightsource SPV 231	Lands approximately 105m northeast and 80m southwest of 40 Sealstown Road Newtownabbey BT36 4QU	Full application for the installation and operation of a solar farm and associated infrastructure including photovoltaic panels mounting frames inverters transformers substations communications building fence pole mounted security cameras	5
LA03/2015/0262/F	Jun 30, 2015	RAD Energy Three Ltd	Lands approx 550m South of 99 Dublin Road Antrim BT41 4PN	Proposed solar farm and ancillary development	49.9

Pending Solar Farm Applications – September 2015

LA03/2015/0257/F	Jun 29, 2015	Lightsource SPV 108 LTD	Lands approximately 140m west of 66 Belfast Road Nuffs Corner Crumlin BT29 4TH	Installation and operation of a solar farm and associated infrastructure including photovoltaic panels mounting frames inverters transformers substations communications building fence and pole mounted security cameras for the life of the solar farm	10
LA03/2015/0250/F	Jun 25, 2015	Lightsource SPV 56 LTD	Lands approximately 90m east of 75 Sealstown Road Newtownabbey BT36 0BQ	Installation and operation of a solar farm and associated infrastructure including photovoltaic panels mounting frames inverters transformers substations communications building fence pole mounted security cameras for the life of the solar farm	6.66
LA03/2015/0025/F	Apr 14, 2015	Doagh Road PV	Lands west of 551 and 553 and north of 555a and 555b Doagh Road Newtownabbey BT37	Proposed ground mounted solar PV farm with associated infrastructure to include panels inverters transformers communications security cameras and fencing for the life of the solar farm	5
LA03/2015/0021/F	Apr 14, 2015	Lightsource SPV 183 LTD	Land north of 20 Knockcairn Road Crumlin BT29 4JL	Installation and operation of a solar farm and associated infrastructure including photovoltaic panels mounting frames inverters transformers substations communications building access tracks pole mounted CCTV and fencing	4.12
LA02/2015/0377/PAN	Aug 12, 2015	Elgin Energy Esco Ltd	Lands immediately south of Ballygarvey Road Ballymena. Lands at the north begin approx. 25m east of 2a Ballygarvey Road approx. 55m south of 42 Ballygarvey Road and approx. 160m west of 65 Ballygarvey Road.	Construction and operation of solar farm with a total generating capacity of 15MW. Development comprises photovoltaic panels mounting frames 1 no. substation 13 no. inverter stations 10 no. CCTV cameras (3 metres high) and ancillary construction works	15
LA01/2015/0544/PAN	Aug 14, 2015	Elgin Energy Esco Ltd	Lands are located immediately NE at No. 11 Bushtown Road extending Eastwards. Lands begin approximately 470m North of 38 Kilmacconnell Road approximately 240m West/North West of 17 Kilmacconnell Road	Construction and operation of a solar farm with a total generating capacity of 20MW. Development comprises photovoltaic panels mounting frames 1 No. substation 18 No. Inverter stations 12 No. CCTV cameras (3m high) and ancillary construction works	20
LA01/2015/0539/PAN	Aug 12, 2015	Elgin Energy Esco Ltd	Lands surrounding 25 and 25(a) Tullaghans Road. Land begins approximately 430m South of 27 Tullaghans Road approx 230m West of 89 Mullian Road approximately 640m North of 15 Slievenaghy Road and approximately 360m SE of 190 Finvoy Road	Construction and operation of a solar farm with a total generating capacity of 20MW. Development comprises photovoltaic panels mounting frames 1 No. substation 18 No. inverter stations 12 No. CCTV cameras (3m high) and ancillary construction works	20
				MW OF PROPOSED SOLAR IN SYSTEM	216.43

Appendix 5: Email correspondence from Mid and East Antrim CE

-----Original Message-----

From: Jayne Logan [<mailto:Jayne.Logan@midandeantrim.gov.uk>]
Sent: 21 September 2015 13:04
To: Ed Crawford <Ed@crawfordgroupireland.com>
Cc: Allister, Jim <info@jimallister.org>; Frew, Paul <paul.frew@mla.niassembly.gov.uk>; McKay, Daithi <daithimckay@btinternet.com>; Ian Paisley MP <ian.paisley.mp@parliament.uk>
Subject: RE: KellsVOCAL Presentation to Council

Dear Mr Crawford

As you are aware the proposed solar farm at Kells is an application of regional significance which will be determined by DOE Planning. Mid and East Antrim Borough Council, is a statutory consultee on this application did not afford the applicant (Elgin) an opportunity to present this planning application to council.

I can confirm that Council will not be providing the Department with a corporate view on this application and therefore will it be a matter for individual Elected Members if they wish to support or oppose the proposed solar farm. I can also confirm that in the Councils consultation response to the Department, it will be requesting that the Department allow for a public local inquiry to be held on the matter.

I understand KellsVOCAL have already held a public meeting which councillors were invited to attend. This is the appropriate way to engage with the local community and their elected representatives, rather than addressing the council as a corporate body.

In this particular case, Mid and East Antrim Council has remained neutral. With regard to future requests to make presentations to councils, where the Council is the Planning Authority, it has the power to hold Pre-Application Hearings and the Planning Committee has a protocol which allows for speaking rights. As such, future requests will be assessed on a case by case basis in line with planning legislation and agreed protocols.

Kind Regards

Anne Donaghy

T: 028 2563 5033/4
W: www.midandeantrim.gov.uk
Mid & East Antrim Borough Council
The Braid, 1 - 29 Bridge Street, Ballymena, Co Antrim, BT43 5EJ

-----Original Message-----

From: Ed Crawford [<mailto:Ed@crawfordgroupireland.com>]
Sent: 19 August 2015 08:55
To: Jayne Logan
Cc: Allister, Jim; Frew, Paul; McKay, Daithi; Ian Paisley MP
Subject: RE: KellsVOCAL Presentation to Council

Dear Ms Dunlop.

We are disadvantaged in that the applicant was afforded the opportunity to present to the council. You seek to deprive us of the opportunity to make a similar presentation.

There are two sides to every story and the council has heard only one side of the solar story.

If we are unable to make presentation to the elected members I expect that none of the elected members who were at the Elgin presentations will be permitted to take part in the consultation process.

That way the consultation process will be neutral. Can you please confirm that this will be the case?

Going forward can you please confirm that no developer, planning applicant or their architect or agents will ever be permitted to make presentation to the council again.

We will continue to make representation to SPD.

Yours sincerely

Ed Crawford

-----Original Message-----

From: Jayne Logan [<mailto:Jayne.Logan@midandeastantrim.gov.uk>]

Sent: 18 August 2015 13:16

To: Ed Crawford <Ed@crawfordgroupireland.com>

Subject: KellsVOCAL Presentation to Council

Dear Mr Crawford

Thank you for your email requesting the opportunity to present to Council in relation to the Solar Farm application in Kells.

The planning application from Elgin Energy for a 50 megawatt solar farm in the Kells countryside is currently being dealt with by the Department of the Environment (DoE) Strategic Planning Division and not by Mid and East Antrim Borough Council.

DoE will be the decision maker on this application, so any presentations such as that suggested by the KellsVocal Group should be made directly to the Department.

Mid and East Antrim Borough Council will be a statutory consultee. The consultation arrived on Monday 10 August and thus is currently being considered and will be brought before Elected Members at the next appropriate Planning Meeting. At this stage Council can decide what further information or presentation is needed.

The protocol which was applied in this case will be applied to all similar regionally significant applications where Council is a statutory consultee.

Further information or presentation to Council will only be considered when the statutory consultation process has begun.

Kind Regards

Jayne Logan

19 August 2015

Mr Mark H Durkan MLA
Minister of the Environment
DoE Private Office
8th Floor
Goodwood House
44 - 58 May Street
BELFAST BT1 4NN

Dear Minister

Planning Reference: LA03/2015/0234/F

Proposal: Construction and operation of a solar farm with total generating capacity of 50MW. Development comprises: photo-voltaic panels on mounting frames; 1 No. substation; 40 No Inverter stations; 30 No. CCTV cameras (3m high poles); 2.45m high perimeter fence; upgrading of 2 No. existing accesses onto Whappstown Road; internal service tracks; and 2 No. temporary construction compounds.

Location: Lands extending NW and SE of Whappstown Road, Moorefields, Castlegore, Ballymena.

I am writing on behalf of KellsVOCAL residents' group to formally request that the Department cause a Public Local Inquiry to be held by the Planning Appeals Commission (hereinafter referred to as PAC) or another appointed Inspector to enable a full, transparent and properly informed public discussion of all aspects of the above-referenced proposal. We are currently receiving professional independent planning advice from Community Places.

The application is a Regionally Significant; Major Development (as prescribed for the purpose of section 26(1) of the Planning Act (Northern Ireland 2011) as confirmed by the Department in its correspondence to the Agent on 9 June 2015 (Appendix 1) which states that the proposal would;

- (a) Be of regional significance to the whole or substantial part of Northern Ireland or have significant effects outside Northern Ireland, or*
- (b) Involve a substantial departure from the local development plan to which it relates.*

The Department has also determined that the application requires to be accompanied by an Environmental Impact Statement as it falls within Category 3(a) of Schedule 2 under the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2012 (since superseded in 2015).

A number of the **Department's** reasons justifying why it is an EIA development *equally* justify the **Department's** need for a Public Local Inquiry (Appendix 2 – EIA Determination). These are set out in detail below.

The Department has the power under Section 26 of the Planning Act (Northern Ireland) 2011 to cause a Public Local Inquiry. The Department's Development Manual cites three circumstances where Public Local Inquiries may be held. In our view this application falls within all three circumstances. There is also an additional reason relating specifically to planning policy why a Public Local Inquiry is necessary:

(1) Developments of a scale and impact [which] should properly be informed by information and discussion at inquiry

The proposal is for a 50MW solar farm on a 94.9ha site. As an indication of the scale of this Proposal, the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2015 require an Environmental Assessment for industrial installations for the production of electricity, steam and hot water where the area of development exceeds 0.5ha. This proposal exceeds the EIA threshold by 94.4ha.

The proposal is of unprecedented scale in Northern Ireland and the UK and will be one of the largest in Europe. The unprecedented scale means the Department will be assessing unprecedented impacts. The Department, in its EIA determination (Appendix 2), has already expressed its concern at the size, scale, nature and impact of the proposal and highlighted the lack of experience of the Department. See the following excerpts from the Determination:

- *"Whilst several applications for solar farms have been considered recently (by the Department), **none to date are on the same scale**"*
- *"The proposed development represents a **new technology to the region**"*
- *"The magnitude, complexity and frequency of the **impact are largely unknown** due in part to a **lack of knowledge** on the severity of the impacts and the potential mitigation available"*

This EIA Determination confirms beyond doubt that the Department requires assistance. Such assistance is best provided in the form of information and discussion through a Public Local Inquiry.

(2) Developments with complex impacts

The proposal will have potentially significant and complex environmental impacts, confirmed by the Department's EIA Determination.

As outlined above, the proposal is of unprecedented size and scale in a Northern Ireland and UK spatial context. The Department has no experience of processing or assessing this size and scale of solar farm, has limited understanding of the technology – the Department concedes in the EIA Determination that this is “...*new technology to the region*”, and it has no knowledge or experience of likely impacts and potential mitigation measures that could be applied.

(3) Developments which support strategies of other Government Departments but which raise issues with respect to planning policy

This proposal raises issues with respect to planning policy set out in detail below. It also claims to support strategies and more critically contribute to the targets of another government department, the Department of Enterprise, Trade and Investment (DETI).

The Environmental Statement refers to the proposal contributing to ‘*A Strategic Energy Framework for Northern Ireland*’ (SEF) published by DETI in 2010. The SEF sets a target of 40% electricity consumption within Northern Ireland from renewable sources by 2020. This target is assessed and, to date is taken into account as a material planning consideration in both planning and planning appeal decisions.

On 27 March 2015 DETI published a *paper ‘CFD Implementation in NI - Strategic issues Discussion Paper’* (Appendix 3) which raises questions over the future of renewable energy targets and projects in Northern Ireland. The consultation paper states the following:

- ***The Northern Ireland Renewables Obligation (NIRO) scheme will close to new generation in March 2017.***
- ***Northern Ireland has to now assess whether to enter the GB Contracts for Difference scheme or **defer action on renewable support.*****
- ***The NI target of 40% of electricity generation from renewables by 2020 could be set aside as it is a non-binding, non-EU driven target.***

As recently as July 2015 DETI officials were unable to confirm to the ETI Stormont Committee whether NI could financially support extending NIRO beyond April 2016; it is estimated that it could cost the NI Executive £90 million. It could therefore be the case that support for large-scale renewable projects (i.e. projects greater than 5MW) will also cease in April 2016.

The timing of this project and whether it will make the NIRO scheme cut off date, given its size, scale and complexity, is a key and determining material consideration in this application.

The socio-economic and environmental benefits of the proposal are given “...*significant weight in determining whether planning permission should be granted*”, (Policy RE 1 ‘Renewable Energy Development’ of PPS 18). The viability of the proposal and its socio-economic benefits ultimately hinge on whether the proposal will be supported by the NIRO which is now uncertain.

An unprecedented application of this size, scale, nature and impact which will be assessed in this uncertain and rapidly changing policy environment would be best facilitated through a Public Inquiry to ensure that you and your Department have all the information needed to enable a planning decision to be taken. Critically, DETI will need to make regular input into the process in order to track the significant changes to NI energy targets, policy and schemes that underpin PPS 18, the key planning policy to assess this proposal, (Appendix 4 – Excerpt from PPS18, Paragraph 2.7). A Public Inquiry would satisfy the significant public and political interest in this application and in the changing renewable energy policy landscape for Northern Ireland. Contributions from all stakeholders will assist you and your Department in making a final decision on the planning application.

(4) Inadequate planning policy

The planning policy for assessing the proposal is Policy RE 1 ‘*Renewable Energy Development*’ of PPS 18. There is no specific reference or consideration of solar energy development in the head note or amplification of Policy RE 1, the key policy against which this regionally significant solar energy application will be assessed. In comparison, wind energy development is specifically addressed (in detail) in the policy head note and amplification of Policy RE1 PPS 18 (Appendix 5).

Policy RE 1 does refer to Best Practice Guidance ‘*Renewable Energy*’ (BPG) that will be taken into account in assessing proposals. The BPG dedicates only 4 of the 89 pages to solar energy proposals and even these are not relevant to this proposal, they focus instead on domestic-scale ground and roof mounted solar panels. The BPG refers to areas occupied by PV modules varying from a few square metres to several hundred square metres, (Appendix 6 – Excerpt from BPG). This proposal is for 380,000 square metres on a 94.9ha site evidently beyond the scope and consideration of Policy RE 1 and the BPG.

In relation to large-scale solar energy the BPG is silent on the basis that “*Such large scale PV installations...are rare in the UK*” (Appendix 6 – BPG, Paragraph 6.4.2). NIEA recently published Standing Advice for solar farms ‘*Energy Generation – Solar Farms*’ (July 2015). This advice however relates only to *non* EIA developments. The BPG has 30 pages dedicated to wind energy providing *detailed* advice and guidance on such as wind; *technology, associated infrastructure, appropriate siting, landscape & visual impact, nature conservation, archaeology and the built heritage, aviation interests, reflection and decommissioning* all of which are equally relevant to but not available in order to assess this proposal for a large-scale solar energy farm.

19 August 2015
Page 5
Minister Durkan

There is *further* supplementary guidance '*Wind Energy Development in Northern Ireland's Landscapes*' which details 130 Landscape Character Areas (LCAs) across Northern Ireland and provides guidance on the suitability and subsequent impact of wind energy in each of these LCAs. It includes principles and guidance relating to *site selection, siting, layout and design and the assessment of landscape, visual and cumulative impacts*. It also provides practical guidance on the preparation and submission of wind energy proposals. There is no such equivalent document to guide developers, decision-makers and host communities through the process and assessment of large scale solar energy applications.

The PAC approved one of the largest wind farms in Ireland when it approved the 42MW wind farm at Dunbeg, located between Limavady and Coleraine (PAC Ref. No. 2009/A0363). The assessment and determination of this 42MW wind energy project was based on detailed planning policy and guidance. This 50MW solar project, an unprecedented renewable energy scheme, has no such grounding in planning policy or guidance as demonstrated above.

This planning policy lacuna and evident dearth of BPG and any supplementary guidance for large scale solar proposals has already been raised with you and DoE Private Office. The responding letters (Appendix 7) only confirm what we have highlighted above that there is an *urgent* need to review strategic planning policy for renewable energies. In your letter dated 16 June 2015 you state;

*"I have already instructed my officials to commence a review of strategic planning policy for renewable energy, which includes solar energy, following the publication of the SPSS. **It is my intention that this work is concluded as rapidly as possible**"*

This statement explicitly concedes that renewable energy policy is not sufficient if, after publishing the SPSS, an urgent review is required. In the same correspondence from you, and subsequent correspondence from DoE Private Office dated 26 June 2015, we were advised that guidance notes for solar energy were being prepared. The Standing Advice issued by NIEA in July 2015 (referenced above) *does not* relate to EIA proposals and the '*Case Officer Guidelines for Processing Solar Farm Applications*' (Appendix 8) is simply a checklist for planning officers, it does not provide the necessary detailed guidance to *assess* large scale solar energy applications. Similar guidelines have been drawn up for wind farms which are again only a checklist for planning officers. In order to *assess* wind farm applications planning officers will refer to the detail in planning policy RE 1, the *detail* in the BPG and the supplementary guidance '*Wind Energy Development in Northern Ireland's Landscapes*'.

It therefore *is* the case that the Department does not have adequate policy or guidance currently in place to *assess* an application of this size, scale, nature and complexity. A Public Inquiry would therefore serve to assist the Department in *assessing* and determining this application.

Other Public Inquiries

Proposals which Ministers have referred for Public Local Inquiry include:

- SONI Ltd major planning application for an electricity substation and 400 kv overhead electrical transmission line with amendments to existing 225kv line Moy, Co Tyrone
- Expansion of George Best, Belfast City Airport (ongoing);
- Retail proposal at Sprucefield (complete);
- Retail proposals in Banbridge (complete) and Castlereagh Road Belfast (complete) and office development in Derry/Londonderry (complete).

In our view this proposal is of a scale, impact, intensity and complexity equal to if not greater than these and others subjected to Public Inquiry.

Summary

The Department would be best informed by the expertise and discussions held through a Public Inquiry to inform and assist the Department and you in reaching a decision on this application. The overall aim is to ensure that all information is made available, expertise is sought and shared, gaps in planning policy and practice are addressed and that critical information from other government departments is disclosed, discussed and examined in a public setting and considered fully. An Inquiry in this case would provide transparency and public confidence in the decision which you ultimately reach.

We hope you will give careful consideration to our request and agree that a Public Local Inquiry should be held. We look forward to hearing from you in early course.

Yours sincerely

Ed Crawford
Chairperson
KellsVOCAL

Enc

Appendix 1: DoE Letter to Agent 09/06/2015



Department of
the Environment
and Heritage

Strategic Planning Division

Mr Seamus Fay
RPS
Elmwood House
74 Boucher Road
Belfast
County Antrim
BT12 6RZ

5th Floor
Causeway Exchange
1-7 Bedford Street
Town Parks
Belfast
BT2 7EG

Telephone: 0300 200 7830
Email: spdadmin@doeni.gov.uk

Your Ref: NI1451
Our Ref: T/2014/0089/PREAPP
S26/05/2015
Date: 9th June 2015

Dear Mr Fay,

Re: Section 26 of the Planning Act (Northern Ireland) 2011 in relation to a proposal for Proposed Solar Farm, on lands located east and west of Whappstown Road and to the north of Doagh Road, northwest of Kells, County Antrim.

Having considered the information provided, the Department is of the opinion that the above proposal would, if carried out, -

- (a) be of regional significance to the whole or a substantial part of Northern Ireland or have significant effects outside Northern Ireland, or
- (b) involve a substantial departure from the local development plan for the area to which it relates;

Therefore, I can confirm that a planning application made for this development should be submitted to the Department.

Yours faithfully

Philip Stinson
For and on behalf of the Department of Environment (NI)

Appendix 2: EA Determination

EA DETERMINATION SHEET

Applic. No. T/2014/0089/PREADP

Date Received 10.03.2014

Case Officer: Mr Keith Irwin

Proposal: Solar Farm

Location: Lands at Kells, Ballymeau

Deadline for Determination:

Extension of time requested: Date Agreed:

The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2012

Does the development fall within the scope of Schedule 1 of the above Regulations: -

No

Does the development fall within the scope of Schedule 2 of the above Regulations: -

Yes

If 'Yes' which category: -

3 (A) - The carrying out of development to provide for industrial installations for the production of electricity, steam and hot water (unless falling within Schedule 1)

What are the likely environmental effects of the project:-

- Visual impact
- Noise, traffic and dust during construction
- Impact on flora and fauna
- Glint and glare on aviation aircraft and vehicular transport corridors
- Pluvial ponding and surface run off to various waterways
- Impact on the integrity and setting of archaeological sites and monuments in the vicinity of the site
- Impact on local bird populations, including Curlew, Snipe and Skylark
- Impact on residential amenity

Were consultations necessary to complete the environmental assessment determination? If YES please specify.

Additionally, it is assumed that the proposal will be enclosed by security fencing and security cameras. It is not stated if there is any proposal to illuminate the site at night. It is expected there would be nothing other than a motion sensitive security light on the substation.

The supporting document states a construction time of 3 months with approximately 100 vehicle movements taking place. It is anticipated that the panels would be brought to the site by 40ft containers. From the information provided with other solar farm applications, the construction phase generally involves up to 20 vehicles per megawatt of electricity, so it can be assumed that anything up to 1000 vehicle movements would in fact be required in this case.

It is understood that the solar mounting frames are usually pile driven into the ground by up to 1 metre although no testing of the geology appears to have taken place to assess suitability and I assume that some form of concrete pads are the alternative.

General advice is that there is to be no development within 5 metres of existing hedges or trees and a separation distance of up to 2.5 times the height of surrounding trees. It has not been stated if there is to be any cut or fill. It is expected that the proposal will have a minimum lifespan of 25 years with some working beyond 35 years.

At a meeting with the agent and applicant on 4th July 2014, it was stated that the grid connection is likely to be achieved from an upgraded substation which is within a short distance of the proposal site.

In terms of waste production there are no details on how surface water runoff will be managed to prevent soil scour or sediment discharge into watercourses. Given the scale of the proposal, there are a number of watercourses which would need protected. Other solar farm projects have indicated that there will be very little increase in surface water runoff, though parts of the site are already affected by pluvial flooding. Given the size of this proposal, Rivers Agency would require a full drainage assessment be carried out. It is not anticipated that the proposal would produce any other forms of waste.

It is understood that work on the potential visual impact of this proposal is well underway and at a meeting with NIEA Landscape Architects Branch on 4th July 2014, potential key viewpoints were outlined and discussed.

A glim and glare briefing note has also been included. Belfast International airport has indicated that the proposal does not appear to conflict with safeguarding criteria.

Although there are no other solar farms in within 5km of this proposal, there is the potential for cumulative impacts with several wind farm developments, both operational and proposed.

Additionally there is not sufficient information on how this technology may impact on birds, flora or fauna within the vicinity and surroundings of the site.

The location of the project

The site lies within the rural countryside approximately 3km east of Kells and 2km south of Moorfields. The site is accessed from the Whappstown Road, Spearstown Road, and Ross Lane. The site itself is some 84.7 hectares in size and is made of approximately 35 agricultural fields. The site is located within both the Tardree Uplands Landscape Character Area and the Tardive and Six Mile Water Slopes Landscape Character Area. There are no coastal zones or mountainous areas as such to be affected, but there are forested areas likely to be affected. There are numerous watercourses throughout the site. The site is a known breeding ground for breeding Curlew, as well as Snipe and Skylark. The proposal will require a test of likely significance under the Habitats Regulations and NIEA Natural Heritage has indicated that there is the potential to have significant environmental effects. RSPB have also highlighted this area as a key breeding ground and offered advice to the applicant.

The site is also potentially archaeologically sensitive and has several monuments in close proximity including two raths (ANT 038:071, ANT 038:35), an early Christian settlement site

(ANT 038:71) and other monuments such as ANT 037:16.

Characteristics of the Potential Impact

The key impacts from the development have been considered and are thought to include the following:

Given the size of the proposal site of 50ha and the fact that it will be viewable from numerous surrounding roads, there is the potential for a significant visual impact, particularly at a local level. Whilst it is acknowledged that solar farms generally are limited in terms of having an adverse visual impact, it is considered that ancillary development such as substations, inverter cabinets, fencing etc may have the most significant impact. The impact of this proposal will be at a local/district level and it is not anticipated that the landscape impacts would extend to be regionally now that the scheme has been reduced in size and the more elevated parts of the original proposal removed.

A preliminary visual impact analysis for this proposal was submitted, and NIEA Landscape Architects Section have been involved with the applicant throughout this pre-application process to advise on the submission of viewpoints as part of the full Landscape and Visual Impact Statement to accompany the full planning application. The potential impacts on the landscape are thought to be reversible given that proposals of this nature have a lifespan of 25-35 years and the panning and fencing can all be removed off site with no topographical changes taking place. There is a potential significant impact on the integrity and setting of designated archaeological sites abutting the site. Although a preliminary archaeological assessment has been carried out, the full impacts of the proposal on archaeology are unknown.

The potential significant impact on designated sites due to the connectivity of the site via numerous watercourses.

The potential impact on flora and fauna, due to shading and construction impacts.

The ecology scoping report submitted is acknowledged but more surveys and studies on ecology will be required as the impacts are likely to be significant. Reports should include details of how any impact could be mitigated.

The potential significant impact of glare and glare on aviation aircraft and vehicular transport corridors.

A glint & glare briefing note was provided and the airport has indicated that they have no safeguarding objections to the proposal at present. Roads Service will require more information in relation to impact on transport corridors in this respect.

There is a potential impact of soil scour due to runoff from the panels and no details have been provided to clarify how these matters are mitigated although it is anticipated that this could be achieved. Rivers Agency has asked for a full drainage assessment to accompany a full planning application.

Potential impacts during construction including noise (piling & vibration), traffic & dust.

It is not indicated how long the construction impacts are likely to be. It is assumed that if best practice guidelines are followed the potentially significant impact is likely to be more limited and temporary in nature.

It is not considered that the proposal following will have any significant impacts in terms of odours or noise during the operational life of the proposal.

There are no transfrontier impacts anticipated.

Conclusion

The proposed development falls to be considered under Part 3a of Schedule 2 of the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2012.
The proposed development raises some potentially significant environmental impacts due to the size, scale and nature of the proposal.
The magnitude, complexity and frequency of the impact are largely unknown due, in part, to a lack of knowledge on the severity of the impacts and the potential mitigation available.
The proposed development represents a new technology to the region.
Whilst several applications for solar farms have been considered recently, none to date are on the same scale. The determining planning policy for assessment is Planning Policy Statement 18 Renewable Energy which is supplement with a best practice guidance which gives little guidance on solar farms other than to point out that they are rare in the UK.
Given the scale and size of the proposed scheme, and taking into consideration the consultation responses received to date, I am of the opinion that the matters outlined above have the potential to be significant and therefore in order to be capable of full assessment require the submission of an Environmental Impact Statement.

Signatures

Dated

1.
2.
3.

.....
.....
.....

REASONS WHY AN EA DETERMINATION IS NECESSARY

PROPOSAL: Solar Farm

This form must not be detached from EA Determination Sheet

The proposal falls within Category 3(a) of Schedule 2 of the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2012 - Energy Industry in that the area of the development as indicated on the submitted site plan exceeds 0.5 hectares.

Signatures

Dated

1. 

2. 

3.

.....

.....

.....

PROPOSAL: Solar Farm

1. Characteristics of development.

The characteristics of development must be considered having regard, in particular, to: -

- | | |
|---|---|
| a) the size of the development; | Y |
| b) the cumulation with other development; | Y |
| c) the use of natural resources; | Y |
| d) the production of waste; | Y |
| e) pollution and nuisances; | Y |
| f) the risk of accidents, having regard in particular to substances or technologies used. | Y |

2. Location of development

The environmental sensitivity of geographical areas likely to be affected by development must be considered, having regard, in particular, to: -

- | | |
|---|-----|
| a) the existing land use; | Y |
| b) the relative abundance, quality and regenerative capacity of natural resources in the area; | Y |
| c) the absorption capacity of the natural environment, paying particular attention to the following areas:- | |
| i.) wetlands; | N/A |
| ii.) coastal zones; | N/A |
| iii.) mountain and forest areas; | Y |
| iv.) nature reserves and parks; | N/A |
| e) areas classified or protected under EEA states' legislation, areas designated by EEA states pursuant to | Y |

...

<p>Council Directive 79/409/EEC on the conservation of wild birds (a) and Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (b);</p> <p>vi.) areas in which the environmental quality standards laid down in Community legislation have already been exceeded;</p> <p>vii.) densely populated areas;</p> <p>viii.) landscapes of historical, cultural or archaeological significance</p>	<p>N/A</p> <p>N/A</p> <p>Y</p>
--	--------------------------------

3. Characteristics of the potential impact

The potential significant effects of development must be considered in relation to criteria set out under paragraphs 1 and 2 above, and having regard in particular to:-

- | | |
|--|-----|
| a) the extent of the impact (geographical area and size of the affected population); | Y |
| b) the transfrontier nature of the impact; | N/A |
| c) the magnitude and complexity of the impact; | Y |
| d) the probability of the impact; | Y |
| e) the duration, frequency and reversibility of the impact; | Y |

Signature of Officer: 

Date: 

Appendix 3: DETI Consultation Paper 'CFD Implementation in NI – Strategic Issues Discussion Paper'



Department of
**Enterprise, Trade
and Investment**
Enterprise, Trade and Investment

Discussion Paper

**CFD Implementation in NI – Strategic issues
Discussion Paper**

27 March 2015

Contents

Ministerial Foreword

Page 3

1

Introduction

Page 4

2

Strategic Issues

Page 7

Annex A

Summary of the emerging findings from the Assessment of Costs and Benefits of the Executive's target of 40% electricity consumption from renewable sources by 2020

Page 12

Annex B

List of issues that CENI is seeking

Page 15

Page 15

FOREWORD



The publication by the Department of Energy and Climate Change of a Call for Evidence on how the Contract for Difference (CFD) scheme could work in Northern Ireland is an important milestone.

The UK Government is introducing a new 'Contract for Difference' scheme to reduce the cost of supporting renewable and low carbon electricity deployment. The Call for Evidence seeks views on the technical modifications to the CFD scheme required for this to be extended to Northern Ireland. But these are complex issues and before we commit irrevocably to our policy approach it is sensible to step back and look at the strategic issues.

This is what I hope to do by issuing this strategic issues discussion paper.

The CFD scheme raises difficult questions for Northern Ireland in terms of cost to electricity consumers, our ability to operate devolved energy policy, the further contribution we should make to renewable targets and the economic impact of renewables.

We have been very successful in achieving the Executive's 2015 Programme for Government target of 20% renewable energy generation. It is a tribute to the renewables sector that it has risen to the challenge of delivering green energy to meet a significant portion of our needs. Nonetheless, looking to the future I have to be mindful of affordability. This is why I'm seeking your views.

A handwritten signature in black ink that reads "Arlene Foster". The signature is written in a cursive, flowing style.

Arlene Foster MLA
Minister of Enterprise, Trade and Investment

INTRODUCTION



Purpose of this discussion paper

- 1.1 The purpose of this discussion paper is to seek views on the specific NI strategic policy issues that implementing the Contract for Difference (CFD) scheme in Northern Ireland (NI) will bring for NI consumers and renewable electricity generators in NI.
- 1.2 The CFD scheme was introduced in GB in 2014, as part of UK-wide Electric Market Reform (EMR), and plans to implement a consistent CFD scheme in NI continue to be taken forward in line with previous announcements. The Department of Energy & Climate Change (DECC) issued a Call for Evidence on the implementation of the CFD scheme in NI on 23 March 2015 covering the four main elements of the scheme i.e. institutional arrangements, allocation, the CFD contract and the supplier obligation. A link is attached; stakeholders are encouraged to read it in conjunction with this document.

<https://www.gov.uk/government/consultations/call-for-evidence-implementation-of-contracts-for-difference-and-the-supplier-obligation-in-northern-ireland>
- 1.3 Renewable electricity generation has grown rapidly in recent years and the Executive's Programme for Government target of 20% renewable electricity by 2015 has all but been reached. Expenditure, levied on consumers' bills, has supported this growth in renewable electricity.
- 1.4 The UK-wide mechanism for incentivising renewable electricity production has been the Renewables Obligation (RO), since 2002 in GB and 2005 in NI, which provides non-competitive support to technologies which would otherwise be unable to compete with conventional generation. HM Treasury has placed a cap on this support through the Levy Control Framework (LCF), which sets annual limits on the overall projected cost of all low carbon electricity consumer funded policies, including the CFD scheme.

- 1.5 The objectives of EMR are to reform the electricity market in response to the challenges facing the electricity sector including:
- The very rapid closure of existing capacity as older, more polluting plant go offline;
 - Our generation mix needs to respond to the challenge of climate change and meet our legally-binding carbon and renewable targets;
 - Electricity demand is expected to continue to grow over the coming decades as we increasingly turn to electricity for heat and transport.

EMR therefore is designed to enable the UK to reform the way that renewable electricity generation is supported and introduce support for non-renewable technologies. CFDs should reduce the cost of meeting the UK's renewable and decarbonisation targets by providing generators with a stable price for their electricity, and through competition for contracts ensuring that the best value for money projects receive support.

- 1.6 CFDs will be replacing the Renewables Obligation in GB as the main way of supporting large-scale renewable electricity generation and it is intended that it will also replace the Northern Ireland Renewables Obligation (NIRO). As a result the NIRO, together with the RO in England & Wales and the Renewables Obligation Scotland (ROS) will close to new generation on 31 March 2017.
- 1.7 It is the ambition that NI generators will have access to an allocation round in October 2016 and payments to successful applicants would commence from 1 April 2017. However, the Minister may reconsider NI's strategic approach in the context of the scheme in light of views provided.
- 1.8 This discussion document sets out strategic NI issues on CFD implementation. If you wish to provide your views you should do so by 5pm on 8 May 2015.

How to respond

- 1.9 Responses should be sent, preferably by email, to:

emr@detini.gov.uk

or by post to:

Renewable Electricity Branch
Department of Enterprise, Trade and Investment
Netherleigh, Massey Avenue
BELFAST
BT4 2JP

All responses should include the name and postal address of the respondent.

Confidentiality & Data Protection

- 1.10 Your response may be made public by DETI and placed on the DETI website. If you do not want all or part of your response or name made public, please state this clearly in the response by marking your response as 'CONFIDENTIAL'. Any confidentiality disclaimer that may be generated by your organisation's IT system or included as a general statement in your fax cover sheet will be taken to apply only to information in your response for which confidentiality has been specifically requested.
- 1.11 Information provided in responses, including personal information, may be subject to publication or disclosure in accordance with the access to information regimes (these are primarily the Freedom of Information Act 2000 (FOIA) and the Data Protection Act 1998 (DPA)). If you want other information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence.
- 1.12 In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

Copies of the document

- 1.13 This document is being produced in electronic form and may be accessed on the DETI Energy website: www.energy.deti.ni.gov.uk or may be obtained from the address above or by telephoning 028 9052 9240.
- 1.14 If you require access to this Statutory Consultation document in a different format – e.g. Braille, disk, audio cassette, larger font – or in a minority ethnic language please contact the Department on 028 9052 9240 and appropriate arrangements will be made as soon as possible.

STRATEGIC ISSUES

2

Strategic policy Issues for Northern Ireland arising from the CFD scheme

- 2.1 The principle of being part of a UK-wide CFD scheme means that no region of the UK has guaranteed renewables deployment. There are benefits to all parts of the UK by meeting UK-wide renewable and decarbonisation targets¹, regardless of the location of generation. These benefits include climate change mitigation, helping to meet Member State EU targets, supporting least cost renewable generation and supply chain benefits which are not necessarily co-located with generation location.
- 2.2 The costs of supporting renewable electricity generation are already socialised across the UK through the RO. Under the current RO, GB consumers make a net contribution towards deployment in NI because a greater proportion of ROCs are awarded to generators in NI than are paid for by NI suppliers.
- 2.3 As a non-competitive scheme the RO supports all eligible renewable projects that deploy. By contrast, the CFD scheme is based on competitive auctions (to ensure that the UK consumer pays the lowest cost for renewable generation). In short, renewable development will take place within the UK wherever it is most economic. It cannot therefore be known in advance what proportion of contracts will be allocated to NI generators.
- 2.4 This also means that there is no basis for the Executive to set a NI renewable target. Instead it would contribute to the UK target. Despite the commitment to the 40% target by 2020, there is no EU driver for this.
- 2.5 The NI Executive has already agreed that if a 2030 statutory decarbonisation target is decided in 2016, this should be extended to NI. In addition, there are a number of other drivers for renewable deployment. These include the UK's target

¹ The UK targets are for 15% renewable energy by 2020. This target is to be met from heat, transport and electricity. The UK does not have a specific renewable electricity target but for modelling purposes it is assumed that 30% renewable electricity is required to meet the 15% wider energy target.

under the Climate Change Act 2008 to reduce greenhouse gas emissions by 80% by 2050; the framework of statutory carbon budgets; the 2020 UK wide renewables targets; the LCF envelope; and the indicative budget announcements for the CfD scheme.

DETI is seeking views on:

1. The impact on the renewables industry in NI in the absence of a local renewable electricity target.

Future deployment of renewable electricity in NI

- 2.6 The principle of least cost development is embedded within the CFD scheme and the CFD allocation process is designed to ensure least cost decarbonisation across the UK. The CFD competitive auction process will determine the most cost effective renewable projects and these may not necessarily be in NI.
- 2.7 Whilst securing a portfolio of the most cost effective renewable projects in the UK means that more projects can be supported from within the LCF limits, it does mean that there could be a much reduced level of renewable deployment in NI and no direct economic benefit.

DETI is seeking views on:

2. If it matters that there is no guaranteed level of renewable deployment and economic benefit in NI (and indeed a possibility of very limited deployment of new renewable projects here) as long as the power sector is being decarbonised at least cost across the UK.

- 2.8 The CFD auctions will provide visibility of the pipeline of contracted projects as auctions progress. Going forward this is likely to impact on the grid planning process in NI, as projects are only eligible to compete for CFDs if they have planning permission and a grid connection agreement prior to application to a CFD allocation round.
- 2.9 It will be a matter for the NI Utility Regulator in due course to decide how to factor competitive CFD allocation rounds into the regulatory price control process.
- 2.10 The potential absence of a future local NI target for renewable electricity will need to be considered by both NIE and the Utility Regulator going forward. NIE has a duty to develop and maintain an efficient, co-ordinated and economic electricity network and any proposals for grid strengthening would have to be considered by the Utility Regulator in that context.

DETI is seeking views on:

3. Potential regulatory impacts in the absence of a NI renewable electricity target.
4. The ability of NI generators to compete in CFD auctions.

Cost to consumers

- 2.11 The implementation of a UK-wide CFD scheme in NI will mean additional costs for NI consumers. But the costs for the UK as a whole will be significantly lower than if national renewable and decarbonisation targets were met through the RO scheme.
- 2.12 CFDs are paid for through a supplier obligation which is a levy on electricity suppliers, the cost of which is assumed to be passed on to consumers. It will be imposed evenly across all UK suppliers. Under the current proposals, all UK suppliers would pay the same £/kWh cost for meeting UK-wide decarbonisation and renewable targets, which we assume would result in the same £/kWh impact on bills for GB and NI consumers.
- 2.13 It is important to remember that NI consumers have benefited from lower costs under the RO mechanism since 2005 due to the lower obligation imposed on NI suppliers compared to those in GB, and this will continue throughout the lifetime of the NIRO. Under the CFD scheme, increasing renewable deployment across the UK and the lack of a discount factor that NI benefited from under the RO means that the direct cost of renewables support¹ (which currently accounts for £17.25 (2.9%) of an average domestic annual electricity bill) could see an almost three-fold increase by 2020², compared with a two-fold increase for GB consumers. However, NI consumers will still be paying less for large scale renewables support in 2020 than GB consumers.
- 2.14 Renewables support costs for industrial and commercial customers is also forecast to increase, and could represent between 7% and 9% of bills (depending on their consumption) by 2020.

Electricity intensive industries

- 2.15 The UK Government intends to exempt the most trade exposed and electricity intensive industries (EII) from some of the costs of the CFD scheme, subject to

¹ These figures do not account for any wholesale price benefits from renewable and low carbon deployment. Note that under CFDs support will also be provided for certain low carbon non-renewable generation.

² £17.25 is NIRO cost in Power NI 2014/15 tariff. Source: Utility Regulator. Estimated cost of renewable support in 2020 is made up of the following elements; NIRO £24 (DETI estimate as half of GB RO of £48); CfDs £30; Total £54 on bills in 2020. Source: DECC Table D2
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/384404/Prices_Bills_report_2014.pdf

State Aid approval. In addition, as a condition of State Aid approval for the CFD scheme for renewable, the UK Government agreed to exempt eligible imported renewable electricity from contributing to the costs of CFDs. It is intended that the EII and imported renewable electricity exemptions will both apply UK-wide from the point at which NI enters the scheme.

- 2.16 Initial indications suggest that very few, if any, large energy users in NI will meet the qualifying criteria for the exemption which is based on electricity intensity. Further information on the qualifying criteria can be found at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/395809/bis-15-31-electricity-intensive-industries-relief-from-the-indirect-costs-of-renewables-government-response-to-the-public-consultation.pdf

Small scale renewables

- 2.17 In relation to small scale renewables, DETI continues to discuss with DECC how Northern Ireland generators and suppliers can participate in the existing GB small scale Feed-In Tariff (FIT) following closure of the NIRO. A review by DECC of the small scale FIT is due to be undertaken during 2015 and DETI has received assurances that Northern Ireland's integration into the FIT will be considered as part of the review. The outcome of the review will not be known until the end of 2015 at the earliest. Further clarity cannot be provided until the outcome of DECC's review is known. DECC estimates that the total costs of the small scale FIT scheme in 2020 will add £14/year for GB consumers. It cannot be known at this stage what the cost to the NI consumer will be if NI joins the small scale FIT but it is anticipated that it would be no more than the cost to the GB consumer.

Administrative costs

- 2.18 NI consumers will also be expected to meet a share of the one off set up costs and ongoing administration costs of the CFD scheme. Set up costs would add to consumer bills in the period 2015-16 and 2016-17 with administration costs incurred on a yearly basis from 2016-17.

DETI is seeking views on:

5. The implications of the principle that NI consumers should continue to contribute to the cost of power sector decarbonisation across the UK.
6. The implications of the likely increased costs to consumers to pay for decarbonisation as a result of the CFD scheme.

Closure of the NIRO

- 2.19 DETI issued a consultation on proposals for the closure of the NIRO and its transition to the CFD support mechanism including arrangements for grace periods for eligible generating stations, on 13 March. This can be accessed at

Impact of strategic decision

- 2.20 DETI has discussed with DECC the possibility of tailoring the GB CFD scheme to meet NI concerns. But it appears that the commitment to promoting renewables development at least cost to the consumer and the conditions of the CFD scheme for renewables State Aid approval leaves little scope for flexibility.
- 2.21 The DETI Minister, in conjunction with her Executive colleagues, could consider other options than joining a UK-wide CFD scheme for supporting renewables development. This could involve a form of NI-only scheme. However, such a scheme could not be in place before the NIRO ends in 2017. In addition, the cost of the scheme design and set-up in a small region could be disproportionate and may outweigh the benefits of increased renewable deployment.
- 2.22 Any new scheme would require a budget allocation and State Aid clearance, both of which would be challenging to achieve.
- 2.23 It also needs to be borne in mind that any alternative scheme would have to be based on a competitive allocation process similar to the CFD. Replicating a NIRO style scheme is not possible under current EU rules and whilst an all-island scheme might seem logical within the all-island Single Electricity Market this is not without its challenges, not least from a regulatory, jurisdictional and state aid perspective.
- 2.24 A further option is to defer action on renewables support and consolidate the gains that have been made so far. Contributions will continue to be made to existing renewables scheme which will be supported for 20 years. Nonetheless, without a renewables incentive scheme there would be little prospect of new renewables development in NI after 2017 and NI would not be contributing towards the costs of meeting the UK's national, statutory renewables and decarbonisation targets.

DETI is seeking views on:

7. The acceptability of reducing costs to consumers by, for example, not implementing the CFD scheme and thereby not supporting new renewables projects post 2017.
8. The impact on investor confidence of not being part of a UK-wide scheme.

Emerging findings of the assessment of costs and benefits of the 40% renewable electricity target

- 2.25 Finally, as part of the planned mid-term review of the Strategic Energy Framework, DETI commissioned work to assess the economic impact of pursuing the Executive's target of 40% renewable electricity consumption by 2020. As noted earlier the Executive's Programme for Government target of 20% by 2015 has almost been reached. DETI will publish the full study in due course but has prepared a brief summary with emerging findings to accompany this discussion paper. It is at Annex A.
- 2.26 This shows that there is economic benefit to Northern Ireland from achieving higher levels of renewables up to 40% (the costs start to outweigh the benefits after that level) with the maximum net benefit at around 25%. However, under the CFD scheme NI consumers will pay the costs regardless, but some of the benefits such as jobs and local supply chain in the renewable industry, may occur outside NI. The CFD scheme is a UK-wide scheme and is not designed to operate on a regional basis. The Study in assessing costs and benefits assumed that a 40% local deployment was achievable, however, under the CFD scheme, this is not guaranteed.

Summary of the emerging findings from the Assessment of the Costs and Benefits of the Executive's target of 40% of electricity consumption from renewable sources by 2020.

Background

1. In 2010, DETI published the Strategic Energy Framework (SEF) which contained the Executive's target of 40% renewable electricity consumption by 2020. Significant progress has been made towards this target and the Executive's 2008-2011 Programme for Government (PfG) target of 12 % by 2012 was met and the 2012-2015 PfG target of 20% renewable electricity by 2015 has also been met.
2. In recognition of changes to the energy and renewable energy market over the last few years and in preparation for the planned mid- term review of SEF in 2015-2016, DETI appointed Ricardo-AEA to produce an updated and extended analysis of previous (2009) baseline figures and estimates of the costs and benefits arising from the 40% target. This analysis includes an assessment of incremental costs and benefits of different renewable electricity levels (from 15% to 40% at 5% increments). It also includes options for the most cost effective renewable electricity deployment levels in NI and associated costs to a range of consumers and benefits to Northern Ireland in terms of CO2 savings, energy diversity and economic benefits. The work involved the development of a set of scenarios to inform the financial model.

Methodology

3. There were a number of key stages in this work:
 - a) A wide range of existing data sources were drawn together by Ricardo AEA and supplemented by engagement with key stakeholders –e.g. NIE, SONI, NIAUR, Consumer Council and NIRIG. Evidence was gathered on electricity generation/demand and technical and financial data on the operation of the NI electricity system.
 - b) A range of low, medium and high scenarios out to 2020 were developed for electricity generation , including both fossil fuel and renewable generation, which considered existing and proposed projects at various stages of development across different technologies to meet the range of percentage levels up to 40%. Historical and forecast electricity demand scenarios were also developed.
 - c) A detailed assessment was undertaken of the main cost elements of the NI electricity system which impact on consumers' bills i.e. wholesale costs (58%), network costs (26%) and other costs (16%). This assessment considers the likely changes (up and down) to each of the three cost elements out to 2020 and separately considered the impact which renewable electricity would have on those costs mainly in terms of support levels and grid strengthening costs.

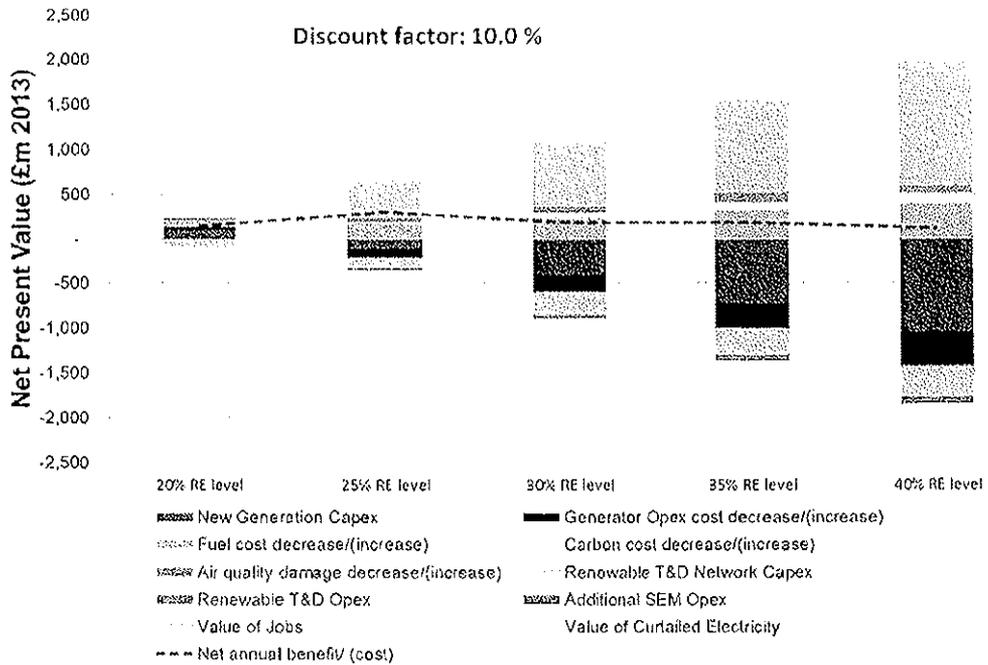
- d) The development of the financial model of the NI electricity system using the above information enables;
 - Calculation of the costs and benefits to the consumer and the NI economy of achieving different levels of renewable electricity for a range of generating scenario mixes.
 - assessment of the sensitivity of each scenario to changes in electricity demand, fuel and technology costs, outages of key plants and interconnectors.
 - inclusion of different levels of investment in the transmission and distribution network required to facilitate higher levels of renewable electricity.
- e) A Cost Benefit Analysis showing a Net Present Valuation(NPV) to the Northern Ireland economy of achieving progressively higher renewable deployment levels has been undertaken; and
- f) The impact on customer bills of renewable support has been estimated.

Emerging findings

- 4. Large scale on-shore wind remains the technology with the most potential to make up the bulk of the renewable electricity target consumption followed by off-shore wind¹ and the other technologies to a lesser degree. Biomass would be the most cost-effective means of achieving the target followed by on-shore wind and then the other RE technologies - although the scope for large scale biomass deployment is limited.
- 5. The emerging findings of the analysis relate firstly to the costs and benefits of the incremental stages up to the 40% target to the Northern Ireland economy as a whole and secondly on the impact on consumer bills.

¹ The withdrawal of the 300MW offshore wind project in December 2014 post dates the analysis and will impact on the ability to achieve the 40% target.

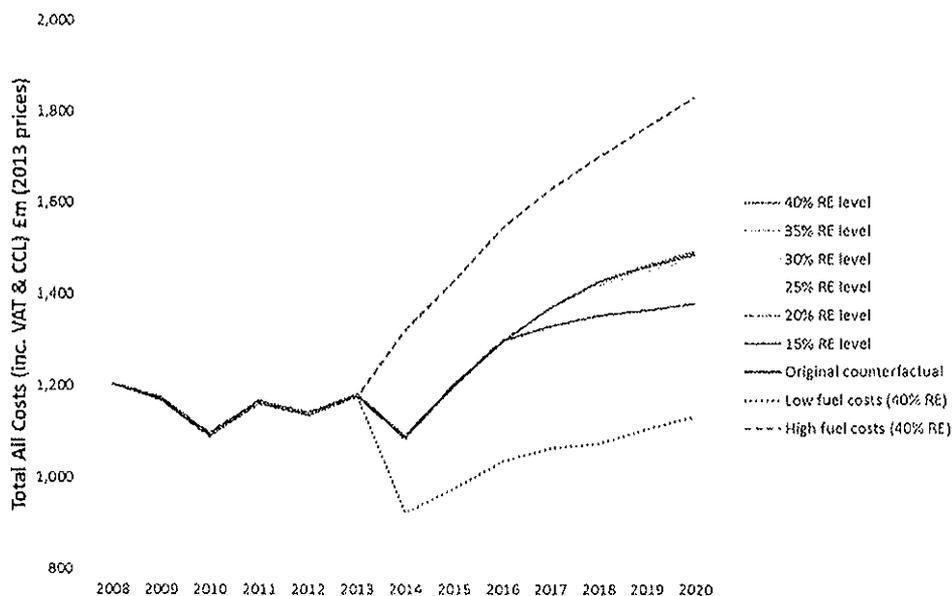
The Cost Benefit Analysis – Emerging findings



- Increasing consumption of electricity from renewables sources up to the Executive’s target 40% level will have a positive effect on the Northern Ireland economy overall.
- Achieving the 40% target level will provide a net benefit of £120m to the Northern Ireland economy across the lifetime of the renewable energy generation.
- This positive result is achieved because Northern Ireland has availed of preferential terms under the NIRO scheme compared to customers in GB.
- The maximum net benefit to the economy is achieved at 25% renewable deployment. Increasing deployment above 25% is still positive for the economy but the net benefit declines with increasing deployment.
- Using a commercial discount rate of 10%, renewable electricity delivers a positive net benefit to the economy at all levels up to 40% RE, before switching to a small negative cost at 46%.
- The costs of achieving the renewable target will only fall on electricity customers while the benefits would be enjoyed by society as a whole in terms of environmental impacts and greater potential levels of employment.

Consumer Bills – Emerging findings

Forecast overall costs of NI electricity to consumers 2014 to 2020



6. This above graph indicates that the overall costs of electricity to NI consumers will increase between 2013 and 2020 under the six renewable electricity deployment scenarios from 15% to 40%. However, the cost to consumers only varies by around 1% between six scenarios.

7. Overall bills will rise due to the following key factors:

- the most significant factor in determining electricity prices are fuel costs which are expected to rise by 2020. The graph shows costs under DECC's central fuel scenario with the dotted lines showing the sensitivity of electricity costs to the fuel price forecast;
- the cost of reinforcing the transmission and distribution network to facilitate increasing levels of renewable electricity will also rise;
- major changes to the UK wide incentive scheme for renewable electricity that are designed to double the level of renewable electricity across the UK by 2020 – the establishment of the EMR and closure of NIRO which will increase prices in NI.

8. The finding that there is little difference between the cost of 15% and 40% deployment may seem counterintuitive but occurs for the following reasons:

- Previous analysis provided by NIE to the Utility Regulator indicates that funding already allowed should facilitate up to 27% renewable penetration. However,

significant additional funding would be needed for the North South interconnector and further grid strengthening to facilitate higher levels of renewable penetration.

- The majority of the increase in incentive costs are the additional 'catch-up' costs moving to UK levels with the loss of the lower level of obligation. This will happen under all scenarios.
- The costs of the CFDs (and assumed costs of small-scale incentives) are modelled using DECC forecasts. Whether we have a 20% or 40% penetration will only marginally affect the proportion of UK wide CFDs for which we pay as part of the EMR.
- Finally moving to 40% penetration will reduce wholesale costs through generating more from renewable sources with little or no associated fuel costs.

EMR related issues

9. The 40% deployment level only shows net benefit to NI economy if jobs are created in the renewables industry in Northern Ireland. However with the closure of the NIRO and introduction of EMR, there is no guarantee that generation will be located in Northern Ireland. If no additional renewable generation is located in Northern Ireland, then no direct NI jobs will be created. The 40% target would also be unachievable.

DETI is seeking views on:

1. The impact on the renewables industry in NI in the absence of a local renewable electricity target.
2. If it matters that there is no guaranteed level of renewable deployment and economic benefit in NI (and indeed a possibility of very limited deployment of new renewable projects here) as long as the power sector is being decarbonised at least cost across the UK.
3. Potential regulatory impacts in the absence of a NI renewable electricity target.
4. The ability of NI generators to compete in CFD auctions.
5. The implications of the principle that NI consumers should continue to contribute to the cost of power sector decarbonisation across the UK.
6. The implications of the likely increased costs to consumers to pay for decarbonisation as a result of the CFD scheme.
7. The acceptability of reducing costs to consumers by, for example, not implementing the CFD scheme and thereby not supporting new renewables projects post 2017.
8. The impact on investor confidence of not being part of a UK wide scheme.



Department of
**Enterprise, Trade
and Investment**
www.detini.gov.uk

March 2015

Department of Enterprise,
Trade and Investment
Netherleigh
Massey Avenue
BELFAST
BT4 2JP

E: [email emr@detini.gov.uk](mailto:emr@detini.gov.uk)
T: 028 9052 9240
F: 028 9052 9549
Textphone: 028 9052 9304
www.energy.detini.gov.uk

Appendix 4: PPS 18 – Paragraph 2.7

Energy Policy

- 2.6 The Department of Enterprise, Trade and Investment (DETI), which has responsibility for energy in Northern Ireland, has published a revised Strategic Energy Framework (SEF) which sets out the scale of Northern Ireland's ambition in the form of new and challenging renewable energy targets. The SEF makes it clear that it is likely that on-shore wind will continue to provide the largest proportion of renewable electricity generation in the period to 2020, not least because it is one of the cheaper forms of renewable electricity generation. The SEF also makes clear the ways in which the Department is developing other forms of renewable energy generation.
- 2.7 These renewable energy targets form the backdrop of this PPS and the complementary 'Wind Energy Development in Northern Ireland's Landscapes' Supplementary Planning Guidance (SPG). DETI and DOE are committed to working together to ensure that these new targets, in line with what is required under the new Renewable Energy Directive, are achieved in a way that respects local and environmental considerations.
- 2.8 In addition, the UK Renewable Energy Strategy, published by the Department of Energy and Climate Change, will form the basis of the UK's National Action Plan required under the terms of Renewable Energy Directive (2009/28/EC). The Strategy sets out the path required for the UK to meet its legally binding target to ensure that 15% of our energy (across electricity, heat and transport) comes from renewable sources by 2020. It makes it clear that achievement of such a target will only be possible with strong, co-ordinated efforts from a dynamic combination of central, regional and local Government and the Devolved Administrations, including Northern Ireland, as well as other public groups, the private sector and dedicated communities.

Sustainable Development Strategy

- 2.9 'First Steps Towards Sustainability – A Sustainable Development Strategy for Northern Ireland' (SDS) recognises that Northern Ireland has enormous potential to develop renewable energy sources as alternatives to burning coal, oil or gas. A priority of the SDS is to foster opportunities and build on the existing successes and abilities of companies in Northern Ireland to develop innovative ideas and new technologies in this field.
- 2.10 The SDS contains challenging targets for Northern Ireland above those set at national and international levels for the reduction of greenhouse gas emissions and indicates important steps towards achieving these targets. These include ensuring that where technologically and economically feasible, beyond 2025, 40% of all electricity consumed in Northern Ireland is obtained from indigenous renewable energy sources with at least 25% of this being generated by non-wind technologies.

Appendix 5: PPS 18 – Policy RE 1 ‘Renewable Energy Development’

Policy RE 1

Renewable Energy Development

Development that generates energy from renewable resources will be permitted provided the proposal, and any associated buildings and infrastructure, will not result in an unacceptable adverse impact on:

- (a) public safety, human health, or residential amenity;
- (b) visual amenity and landscape character;
- (c) biodiversity, nature conservation or built heritage interests;
- (d) local natural resources, such as air quality or water quality; and
- (e) public access to the countryside.

Proposals will be expected to be located at, or as close as possible to, the source of the resource needed for that particular technology, unless, in the case of a Combined Heat and Power scheme or a biomass heating scheme, it can be demonstrated that the benefits of the scheme outweigh the need for transportation and an end user is identified.

Where any project is likely to result in unavoidable damage during its installation, operation or decommissioning, the application will need to indicate how this will be minimised and mitigated, including details of any proposed compensatory measures, such as a habitat management plan or the creation of a new habitat. This matter will need to be agreed before planning permission is granted.

The wider environmental, economic and social benefits of all proposals for renewable energy projects are material considerations that will be given significant weight in determining whether planning permission should be granted.

The publication Best Practice Guidance to Planning Policy Statement 18 'Renewable Energy' will be taken into account in assessing proposals.

Wind Energy Development

Applications for wind energy development will also be required to demonstrate all of the following:

- (i) that the development will not have an unacceptable impact on visual amenity or landscape character through: the number, scale, size and siting of turbines;
- (ii) that the development has taken into consideration the cumulative impact of existing wind turbines, those which have permissions and those that are currently the subject of valid but undetermined applications;
- (iii) that the development will not create a significant risk of landslide or bog burst;

- (iv) that no part of the development will give rise to unacceptable electromagnetic interference to communications installations; radar or air traffic control systems; emergency services communications; or other telecommunication systems;
- (v) that no part of the development will have an unacceptable impact on roads, rail or aviation safety;
- (vi) that the development will not cause significant harm to the safety or amenity of any sensitive receptors¹ (including future occupants of committed developments) arising from noise; shadow flicker; ice throw; and reflected light; and
- (vii) that above-ground redundant plant (including turbines), buildings and associated infrastructure shall be removed and the site restored to an agreed standard appropriate to its location.

Any development on active peatland will not be permitted unless there are imperative reasons of overriding public interest.

For wind farm development a separation distance of 10 times rotor diameter to occupied property, with a minimum distance not less than 500m, will generally apply.

The supplementary planning guidance '*Wind Energy Development in Northern Ireland's Landscapes*' will be taken into account in assessing all wind turbine proposals.

Justification and Amplification

- 4.1. Increased development of renewable energy resources is vital to facilitating the delivery of international and national commitments on both greenhouse gas emissions and renewable energy. It will also assist in greater diversity and security of energy supply. The Department will therefore support renewable energy proposals unless they would have unacceptable adverse effects which are not outweighed by the local and wider environmental, economic and social benefits of the development. This includes wider benefits arising from a clean, secure energy supply; reductions in greenhouse gases and other polluting emissions; and contributions towards meeting Northern Ireland's target for use of renewable energy sources.
- 4.2. This policy is intended to apply to all renewable energy technologies. Such technologies can be used at different scales ranging from those which contribute to the national grid, to micro-generation schemes which serve one property. Renewable resources can be used to supply

¹ For the purposes of this policy sensitive receptors are defined as habitable residential accommodation (although not necessarily occupied), hospitals, schools and churches.

Combined Heat and Power Schemes (CHP) to serve groups of properties, existing or new, including housing schemes.

- 4.3. Technologies are constantly being researched and developed. Developments utilising other renewable technologies, not presently viable, but which become viable will also be assessed against the requirements of Policy RE1.
- 4.4. Development proposals should demonstrate any environmental, economic and social benefits as well as how any environmental and social impacts have been minimised through careful consideration of location, scale, design and other measures.

Natural and Built Heritage Considerations

- 4.5. In all cases careful consideration will be given to the scale, siting, design and layout of the proposal. The significance of environmental effects may depend on the type and scale of the renewable energy development and the sensitivity of the location. As the sensitivity of location between and within different designated areas can vary, each proposal will be assessed against the specific reason for designation, taking into account uniqueness, beauty, and character of landscape, habitat and species, physiographic, geological, heritage and cultural features. Policy relating to these matters is set out in the Department's Planning Policy Statement 2 Planning and Nature Conservation and Planning Policy Statement 6 Planning Archaeology and the Built Heritage.
- 4.6. Where a renewable energy development is likely to have an adverse effect on the natural heritage or nature conservation interests, the Department will require developers to bring forward mitigation measures, and where appropriate the scope for compensatory measures may be considered. Further information on this matter is set out in PPS 2 Planning and Nature Conservation.

Peatland

- 4.7. Active peatland, comprising blanket and raised bog, ie peatland on which peat is currently forming and accumulating, is identified as a priority habitat for Europe in Annex 1 of the EC Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (the 'Habitats Directive').
- 4.8. The cutting and drainage associated with the development of, in particular, wind turbines and their associated infrastructure, has the potential to severely impact on the hydrology of a large area of active bog.
- 4.9. In addition, development in peatland involves a risk of a mass of peat or bog movement, resulting in land slide or bog burst. Where development is proposed on peatland, the onus is on the developer to

provide comprehensive information identifying existing, potential and construction induced peat landslide hazards.

- 4.10. Where complete avoidance of risk is not possible the proposed design should be modified to incorporate engineering options for mitigation of risk. Development consent may be declined due to the level of hazard identified or where engineering solutions have the potential to significantly increase the level of disturbance, or drying out of the peat and release of carbon.
- 4.11. Where the hydrology of other peatland sites has been negatively impacted upon through previous interventions, measures may be taken to restore such areas to active peatland. In promoting mitigation/compensatory measures for renewable energy developments the Department may require developers to restore areas to active peatland that are within or adjacent to the development site.

Technology appropriate location

- 4.12. Renewable energy resources, such as hydro or wind, can usually be developed only where they occur and some degree of impact may be unavoidable. In relation to wind energy, this can only be exploited where wind speeds are sufficiently fast. By its very nature the wind resource is likely to be greatest in upland areas, which may be particularly sensitive in terms of their landscape and nature conservation value. It is also recognised that larger-scale wind energy developments are likely to be visible over distances. However, the impacts associated with such forms of renewable energy development may be considered acceptable for example because they are minor or because mitigation measures may be put in place.

Landscape and Visual Effects of Renewable Energy Development

- 4.13. The landscape and visual effects of particular renewable energy developments will vary on a case by case basis according to the type of development, its location and the landscape setting of the proposed development. Some of these effects may be minimised through appropriate siting, design and landscaping schemes, depending on the size and type of development proposed. To assist assessment by the Department proposals should be accompanied by objective descriptive material and analysis wherever possible even though the final decision on the visual and landscape effects will be made by professional judgement.
- 4.14. Of all renewable technologies, wind turbines are likely to have the greatest visual and landscape effects. However, in assessing planning applications, the Department recognises that the impact of turbines on the landscape will vary according to the size and number of turbines and the type of landscape involved, and that some of these impacts

may be temporary if conditions are attached to planning permissions which require the future decommissioning of turbines.

- 4.15. The document 'Wind Energy Development in Northern Ireland's Landscapes' (SPG), published by the Northern Ireland Environment Agency identifies landscape characteristics that may be sensitive to wind turbine development. This document provides supplementary planning guidance on the landscape and visual analysis process, and the indicative type of development that may be appropriate. While the SPG will be taken into account in assessing all wind turbine proposals it is not intended to be prescriptive.

Decommissioning

- 4.16. In relation to renewable energy developments which become redundant, such as wind farms, applicants will be required to provide details on future decommissioning. This should include proposals for site restoration - generally to a condition which is as close as possible to its original state as appropriate to its location. The Department will use planning conditions (or a legal agreement where appropriate) to ensure the works necessary to restore the site to an agreed standard are undertaken.
- 4.17. For wind farm development, it is likely that the duration of the planning permission will be linked to the expected operational life of the turbines. However during this period, proposals may be forthcoming to extend the life of the project by re-equipping or to replace the original turbines with new ones. While there are obvious advantages in utilising established sites, such cases will have to be determined on their individual merit and in the light of the then prevailing policy and other relevant considerations

Information Requirements

- 4.18. Certain renewable energy developments, depending on their scale or location, may require a formal Environmental Impact Assessment (EIA) under the provisions of the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999. Further information on the need for EIA for the various renewable energy technologies is set out in the *Best Practice Guidance to Planning Policy Statement 18 'Renewable Energy'*. In addition, where such development is located in a "sensitive area"², EIA will also be required if it is likely to have a significant effect on the environment. Development Control Advice Note 10 Environmental Impact Assessment provides general guidance for prospective developers on this matter and highlights requirements in

² Regulation 3 of the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999 defines a sensitive area as: an Area of Special Scientific Interest (ASSI); an Area of Outstanding Natural Beauty (AONB); a National Park; a World Heritage Site; a scheduled Monument; or European Sites as defined in regulation 9 of the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 such as a Special Protection Area (SPA) or a Special Area of Conservation (SAC).

relation to procedures to be followed where projects in Northern Ireland are likely to have a significant effect on the Republic of Ireland.

- 4.19. Where renewable energy development does not fall within the requirements of the EIA Regulations, the Department will still expect an assessment of the environmental effects of the development to be submitted with any application. The level of detail required should reflect the scale of the technology employed and take account of its location. For small scale projects and micro-generation schemes a short report prepared by the applicant, will normally suffice. The most significant environmental effects in such cases will generally relate to the impact of any noise or emissions on neighbouring properties. For larger scale projects, developers will also be expected to outline the benefits arising from the development in terms of the energy produced in order to enable a balanced assessment of the proposal to be carried out.
- 4.20. The Department would also draw the attention of prospective developers of renewable energy projects to the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995. Under these Regulations the Department, as the "competent authority", is required to undertake an Appropriate Assessment of any proposal that has the potential to significantly affect a European Site, either directly or indirectly. In such cases developers must provide such information as the Department may reasonably require for the purposes of this Assessment. Further information on Appropriate Assessment is contained in the publication: Habitats Regulations Guidance Notes for Competent Authorities, Northern Ireland Environment Agency September 2002. It should be noted that under the provisions of Planning Policy Statement 2, that Appropriate Assessment may be required for renewable energy proposals that have the potential to significantly affect other Sites of International Nature Conservation Importance³.
- 4.21. The Department would stress that failure to supply adequate environmental information to accompany planning applications for renewable energy projects, in particular large scale schemes such as windfarms, is a key cause of delay in determining such proposals.

³ Special Protection Areas (including potential SPAs), Special Areas of Conservation (including candidate SACs), Sites of Community Importance and Ramsar Sites.

Appendix 6: Best Practice Guidance to PPS 18 (2009)

6. Active Solar (Photovoltaics)

INTRODUCTION

- 6.1.1 Active solar technology can be divided into two categories: Photovoltaic (PV) and Solar Water Heating (SWH). Solar PV is unique among renewable energy technologies in that in addition to generating electricity from daylight, it can also be used as a building material in its own right. PV can either be roof mounted or free-standing in modular form, or integrated into the roof or facades of buildings through the use of solar shingles, solar slates, solar glass laminates and other solar building design solutions.

TECHNOLOGY

- 6.2.1 PV systems exploit the direct conversion of daylight into electricity in a semi-conductor device.
- 6.2.2 The most common form of device comprises a number of semi conductor cells which are interconnected and encapsulated to form a solar panel or module. There is considerable variation in appearance, but many solar panels are dark in colour, and have low reflective properties. Solar panels are typically 0.5 to 1m² having a peak output of 70 to 160 watts. A number of modules are usually connected together in an array to produce the required output, the area of which can vary from a few square metres to several hundred square metres. A typical array on a domestic dwelling would have an area of 9 to 18m², and would produce 1 to 2 kW peak output.
- 6.2.3 Other forms of solar PV technology are becoming more common in the UK, such as solar tiles, which can be integrated into new buildings or refurbishments alongside conventional roofing tiles or slates. They have the aesthetic advantage of giving a roof an homogeneous appearance, virtually indistinguishable from conventional roofing materials. PV modules can be fitted on top of an existing roof using a low support structure. In this case, the panels will typically lie flush with the existing roof and not protrude above the roofline. Alternatively, and particularly in new buildings, they may form all or part of the weatherproofing element of the roof, replacing conventional slates or tiles. Where the modules form only part of the area of the roof, they can be integrated in a similar way to proprietary skylights.
- 6.2.4 Connections between individual panels are made either in the support structure, or inside the roof void, and are rarely visible from the exterior of the building.

Siting issues

- 6.2.5 For best performance, PV modules need to be inclined at an angle of 20-40 degrees, depending on the latitude, and orientated facing due south. In practical terms, this is not always possible on existing buildings, and some degree of flexibility in inclination and orientation is acceptable although this will be at the expense of best performance. To function well PV installations need to be inclined at between 10 and 60 degrees, and orientated facing from east to west (i.e. within 90 degrees of due south).
- 6.2.6 Although roof mounted PV is the most common, modules can also be mounted on the sides of buildings, or on free standing support structures on the ground. In some cases, particularly on institutional or commercial buildings, PV cladding on the side of the building can be an architectural feature as well as a supply of electricity. Other examples of building integrated PV include external sun shading of office windows (bris-solaires) and glass atrium roofs.
- 6.2.7 Shadows from buildings, trees or other structures can significantly reduce performance of the PV system and planners and designers should take reasonable steps to minimise permanent overshadowing of the PV.

Types of system

- 6.2.8 **Stand-alone systems:** PV is widely used to provide power for communications systems, domestic dwellings and monitoring systems either in remote areas or locations where connection to the grid is expensive or otherwise problematic, e.g. certain road signage. Elsewhere in the UK, the use of PV to provide energy for lighting of telephone kiosks in rural areas, bus shelter lighting, remote traffic monitoring, and railway trackside signalling is increasing as it is almost always more cost-effective than new connections to the grid.
- 6.2.9 **Grid-connected schemes:** In grid-connected solar PV systems NIE Energy (Northern Ireland Electricity) offers a 'Renewable Generation Contract' under which it offers small generators (up to 1MW capacity) a payment for both the NIROCs (Northern Ireland Renewable Obligation Certificates) on accredited generation and for electricity that is exported. Other contractual arrangements may be available through Second Tier Suppliers. Further information is available on the NIE Energy website <http://www.nie-yourenergy.co.uk/micro.php>.

The context

- 6.2.10 PV technology is expected to decrease in cost over the next decade and PV systems could provide a useful contribution to renewable energy generation. For its part the Department would encourage greater use of PV systems in new developments and the retrofitting or

incorporation of such technology on existing buildings where appropriate.

PLANNING ISSUES

General

- 6.3.1 The technology will be familiar to most and from the planning point of view, whilst there are clearly implications for listed buildings and the sensitive front elevations of some conservation areas, in general 'solar panels' are to be encouraged. In most cases involving dwelling houses, provided the building is not listed or in a conservation area and the installation complies with the relevant constraints, PV will be "permitted development" and a planning application will not be required. The panels cannot however, extend more than 15 centimetres beyond the plane of any existing roof slope which fronts any road to comply with Schedule 1 Part 1, Class B1(c) of the Planning (General Development) Order) Northern Ireland) 1993. It should be noted that permitted development rights for small-scale renewable energy development are currently under review by the Department.
- 6.3.2 PV is particularly well suited to the urban environment and is clean and silent in operation.
- 6.3.3 The increasing take-up of solar PV technologies raises a number of considerations which may need to be taken into account. These include:
- whether particular systems require planning permission;
 - the importance of siting systems in situations where they can collect the most energy from the sun;
 - the need for sufficient area of solar modules to produce the required energy output from the system; and
 - the colour and appearance of the modules.

Listed buildings and designated areas

- 6.3.4 The installation of a PV array on a building listed for its special architectural merit or historic interest – or on another building or structure within its curtilage – is likely to require an application for listed building consent. This will be so, even if specific planning permission is unnecessary.
- 6.3.5 Permitted development rights to clad the walls or alter the existing roofline of a dwelling do not necessarily apply in Areas of Outstanding Natural Beauty, Conservation Areas or Areas of Special Scientific Interest. When considering applications in these areas the potential impact on the character or appearance of the area should be considered.

- 6.3.6 If an application for a PV module is submitted for a building close to a conservation area, or close to a listed building, its proximity to such area or buildings may be a material consideration in deciding the application.

INFORMATION TO ACCOMPANY A PLANNING APPLICATION

- 6.4.1 A planning application or application for listed building consent for a solar PV system could usefully include the following information:
- the design of the module or array;
 - photographs of the existing built environment;
 - detail of the roof mounting arrangement, if applicable;
 - indicative drawings of the module or array in place;
 - connection details to the building or grid if relevant;
 - if the application involves a listed building, a photomontage of the proposed collector array could be useful.

Environmental Assessment

- 6.4.2 The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999 do not include solar energy systems specifically in Schedule 1 or 2. However any industrial scale installation for the production of electricity which exceeds 0.5 hectares is listed in Schedule 2 and would therefore require a Screening Opinion. Such large scale PV installations, however, are rare in the UK. Domestic or small-scale systems are not covered by Schedule 1 or 2 and are therefore not likely to require an EIA. In AONBs, conservation areas and on listed buildings, the only issues likely to be important are visual amenity and building fabric and these can be covered by a short description accompanying the planning application.

OTHER AUTHORISATIONS/CONSENTS

- 6.5.1 For stand-alone systems not connected to the distribution network, no additional authorisations are required. For systems that are connected to the electricity network, prior consent of NIE must be obtained in accordance with NIE's current connection process. Small PV systems come within the scope of Engineering Recommendation G83/1 – *Recommendations for the Connection of Small Scale Embedded Generators (up to 16A per phase), in Parallel with Public Distribution Networks*, (Issue 1: 2003). NIE have increased the limit of G83 applications to 6kW per phase. Larger systems may be required to meet Engineering Recommendation G59/1/NI – *Recommendations for the connection of embedded generating plant to Northern Ireland Electricity's distribution systems*. Schemes for 10MW or more of electricity generation will require DETI consent.
- 6.5.2 There may be instances where the retrofitting of solar panels to an existing building will require building control consent.

**Appendix 7: Minister Letter (16/6/2015) & DoE Private Office Letter
(26/6/2015)**

From the office of the
Minister of the Environment



Department of the
Environment

www.doeni.gov.uk

Jane D Burnside Architects
Origami House
Whappstown Road
Kells
Ballymena
BT42 3NX

DoE Private Office
8th Floor
Goodwood House
44 - 58 May Street
Town Parks
BELFAST
BT1 4NN

Telephone: 028 902 56019

Email: private.office@doeni.gov.uk

Your reference:

Our reference: COR/1452/2015

16 June 2015

Dear Jane,

Thank you for your correspondence of 4 June 2015 regarding the draft Strategic Planning Policy Statement (SPPS) and guidance notes on renewable energy development proposals.

Planning policy for all types of renewable energy development is currently set out in Planning Policy Statement 18 'Renewable Energy.' Proposals for solar farms are considered against the planning policy contained within this policy statement and all other material considerations. I consider that PPS 18 is an appropriate policy framework in which to consider proposals for renewable energy development, including proposals for solar energy developments.

The draft SPPS consolidates and improves the existing suite of planning policy statements, including PPS 18, to provide a strategic planning policy framework appropriate for the new two-tier planning system which has been operational since 1 April 2015. My officials completed work on the final SPPS in March 2015 and I have endeavoured on a number of occasions to bring the document before the Executive Committee for consideration. I intend to publish it as soon as possible following consideration by the Executive Committee. It is important to note that the fact that the final SPPS is not yet published does not leave a policy vacuum as PPSs, such as PPS 18, are still in operation.

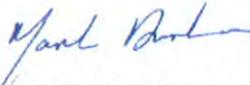
In relation to the guidance notes, my officials are currently preparing internal guidance notes for processing renewable energy applications (including solar farms) which will provide useful advice and guidance to planning staff dealing with solar farm and other renewable energy proposals. This guidance will focus on the process that should be followed rather than adding to the existing policy and guidance documents, and I am confident it will be completed within the next few weeks. While the guidance will be very helpful for planning officials in dealing with renewable energy applications (including solar), it is not an essential element required in order to enable planning applications for renewable energy proposals (including solar) to be processed. I remain very firmly of the view that there is an appropriate planning

policy framework in place for considering all proposals for renewable energy development, including solar farms.

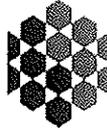
I have already instructed my officials to commence a review of strategic planning policy for renewable energy, which includes solar energy, following the publication of the SPPS. It is my intention that this work is concluded as rapidly as possible. This review will offer stakeholders and interested parties an opportunity to influence the future strategic planning policy direction for renewable energy development.

I trust this response is helpful.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Mark Durkan".

MARK H DURKAN MLA
Minister of the Environment



Department of the
Environment
www.doeni.gov.uk

DOE Private Office
8th Floor
Goodwood House
44-58 May Street
Town Parks
Belfast
BT1 4NN

Ms Pamela Dennison
20 Whapptown Road
Moorfields
Ballymena
BT42 3DA

Telephone: 028 9025 6022

Email: Private.office@doeni.gov.uk

Your reference:

Our reference: COR/1325/2015

Date: 26 June 2015

Dear Ms Dennison

Correspondence from KellsVOCAL

I refer to the correspondence that the Environment Committee previously sent to you dated 13 May and your follow up correspondence copied to the Environment Committee dated 1 June 2015 regarding the above. I would like to make the following comments in relation to the points raised in the letter.

Point 1: Noted.

Point 2: Planning policy for **all** types of renewable energy is currently set out in Planning Policy Statement 18 'Renewable Energy.' Proposals for solar farms are considered against the planning policy contained within this policy statement and all other material considerations. As previously advised, the Department considers that PPS 18 is an appropriate policy framework in which to consider proposals for renewable energy development, including proposals for solar energy developments.

Again, as previously advised, the draft Strategic Planning Policy Statement consolidates and improves the existing suite of planning policy statements, including PPS 18, to provide a strategic planning policy framework appropriate for the new two-tier planning system which has been operational since 1 April 2015. Work on the final SPPS was completed in March 2015 and the Minister has tried on a number of occasions since then to bring the document before the Executive Committee for consideration. It will be published as soon as possible following consideration by the Executive Committee. It is important to note that the fact that the final SPPS is not

yet published does not leave a policy vacuum as PPSs, such as PPS 18, are still in operation.

In relation to the guidance notes, DoE officials are currently preparing internal guidance notes for processing renewable energy applications (including solar farms) which will provide useful advice and guidance to planning staff dealing with solar farm and other renewable energy proposals. This guidance will focus on the process that should be followed rather than adding to the existing policy and guidance documents and is intended to be completed within the next few weeks. While the guidance will be very helpful for planning officials in dealing with renewable energy applications (including solar), it is not an essential element required in order to enable planning applications for renewable energy proposals (including solar) to be processed. The Department remains very firmly of the view that there is an appropriate planning policy framework in place for considering all proposals for renewable energy, including solar farms.

Point 3: The draft SPPS included a subject policy on Renewable Energy, which includes solar energy. Paragraph 6.189 of the draft SPPS states that 'The main sources of renewable energy are wind, sun (solar energy), moving water (hydropower), heat extracted from the air, ground and water (including geothermal energy), and biomass (wood, biodegradable waste and energy crops).' The purpose of public consultation on policy documents is to allow the public to highlight potential deficiencies in the initial draft which can be addressed, as appropriate, in the final version. It is the Department's intention to publish the final SPPS as soon as possible following consideration by the Executive Committee and complete the internal guidance notes for planning officials in the next few weeks.

Point 4: As previously advised, the Minister intends to commence a review of strategic planning policy for renewable energy, which includes solar energy, following the publication of the SPPS. It is his intention that this work is concluded as rapidly as possible. This review will offer stakeholders and interested parties, such as Kells Vocal, an opportunity to influence the future strategic planning policy direction for renewable energy development.

Point 5: Please see response to Point 2.

The Department is satisfied that there is an appropriate planning policy framework in place for considering all proposals for renewable energy, including solar farms. The Department does not consider that a moratorium is appropriate or necessary.

I trust this response is helpful.

Yours sincerely,

Greg Cunningham
DALO
[by e-mail]

Appendix 8



CASE OFFICER GUIDELINES FOR PROCESSING SOLAR FARM APPLICATIONS



Strategic Planning Division

DoE

July 2015

Preamble

This internal guidance focuses on the process involved in dealing with, and the specific issues to be aware of, in the determination of a solar farm application. It is not intended to add to the existing policy and guidance documents. The current policy and guidance documents are considered appropriate for assessing all renewable energy developments.

You should note that the Minister for the Environment intends to commence a review of the strategic planning policy for renewable energy, including solar energy, following the publication of the Strategic Planning Policy Statement (SPPS). It is intended that the SPPS will be published as soon as possible following consideration and agreement by the Executive Committee of the Northern Ireland Assembly.

Under Part 2 (domestic) and Part 37 (non domestic) of The Planning (General Permitted Development) Order (NI) 2015, certain solar installations may be permissible under Permitted Development Rights. It is the responsibility of each case officer to ensure they follow legislative requirements and policy accordingly.

THIS GUIDANCE IS NOT INTENDED TO REPLACE THE NEED FOR JUDGEMENT BY PLANNING OFFICERS. NOR IS IT INTENDED TO BE A SOURCE OF DEFINITIVE LEGAL ADVICE. REFERENCE SHOULD BE MADE TO THE ACTUAL LEGISLATION REFERRED TO IN THIS DOCUMENT AND IF ANY DISCREPANCY OR CONFLICT EXISTS BETWEEN THE GUIDANCE AND LEGISLATION, THE PROVISIONS OF THE LEGISLATION WILL PREVAIL.

CONTENTS

- 1. Validation**
- 2. Consultees/Consultations**
- 3. Advertising**
- 4. Neighbour Notification**
- 5. Assessment of a solar farm application**
- 6. Key planning issues in a solar farm application**
- 7. Recommendations**
- 8. Post Decision**
- 9. Compliance/Discharge of planning conditions**

1. VALIDATION

You should be aware of the requirements of Article 3 of The Planning (General Development Procedure) Order (NI) 2015 (the GDPO) in relation to validation.

Forms fully completed and signed (P1)

Accurate description required (size of solar farm, the energy output (Megawatts/MW) type of array (e.g. static or 'tracker), details of ancillary development, access arrangements etc.).

On the P1/planning application form, Q. 23 should be fully completed in accordance with Section 42 of The Planning Act (NI) 2011. If Certificate C is selected at Q.27, the subsections should also be appropriately completed and a full list of those with an interest in the land provided (large sites may have multiple landowners and/or trustees of lands).

Drawings – specifically in relation to solar energy you should be aware of:

- site outlined in red to include all development (including any ancillary works such as temporary compounds, substations, access requirements and access tracks, any other road works on the public road (such as passing bays, junction widening).
- scaled drawings of details of the development - including solar panel elevations, foundation details, detailed site layout plan, detailed site access drawings, drainage details where appropriate, cable/trench details where appropriate, substation/electrical switchroom, temporary compound details, boundary treatments.

Appropriate fee.

As the site area can be difficult to measure manually, you may wish to ask the applicant to provide an electronic shape file of the site. This can be uploaded to the Portal to confirm the site area so that the appropriate fee can be applied.

If the application is accompanied by a voluntary Environmental Statement (ES) (or it has been determined as EIA development as per The Planning (Environmental Impact Assessment) Regulations (NI) 2015 (The EIA Regs) - then the additional ES

fee should be applied as per Regulation 11 of The Planning (Fees) Regulations (NI) 2015.

The Planning Act (NI) 2011 – Articles 27 & 28

If an application is considered to be 'major development' (as per Regulation 2 of the GDPO) then the application is also required to be accompanied by:

- A Design & Access Statement (Art. 6 of the GDPO) (See also DM Practice Note 12)
- Pre-Application Community Consultation Report (Art. 3(3)(e) of the GDPO) (See also DM Practice Note 10)
- Under Article 27(2) of The Planning Act, applicants must also give notice (Pre-Application Notice (PAN)) to the appropriate council that an application for planning permission for the development is to be submitted. A period of at least 12 weeks must elapse between giving the notice and submitting any such application and PACC.

2. CONSULTATIONS

The 3 options for consultees are Statutory/Non Statutory/Advice & Guidance. If the application is accompanied by an ES, consultees are afforded no less than 4 weeks to respond as required by The Planning (EIA) Regulations 2015.

Article 13(1) of The Planning (General Development Procedure) Order (NI) 2015 (Schedule 3 Part 1) sets out the statutory consultees that should be consulted where an application is to be determined by a council.

Additionally, there will be instances where non statutory consultees may also need to be consulted on a case-by-case basis.

The following consultees may be relevant for solar farm applications. This list is not exhaustive and case officers should satisfy themselves that the appropriate statutory consultee(s) is/are consulted. Additionally other non-statutory consultees may be required to enable an informed decision to be made.

The Department

See The Planning (GDP) Order (NI) 2015 (Schedule 3, Part 1 Art. 1(k))

Council

Is there an adjacent council that should be consulted because of proximity/impacts? Does the site straddle more than one council jurisdiction? - you may wish to consider the provisions of Part 4 of the Local Government Act (NI) 2014, which allow the respective councils to establish joint working arrangements or to delegate the processing and determination of an application to one or other of the councils.

Aviation

Directorate of Airspace Policy

Belfast International Airport

Licensed aerodromes within 30km of the proposal

Northern Ireland Environment Agency – only one consultation should be sent to NIEA – **it is important to indicate the reason for consultation and if the application is accompanied by an ES, highlight appropriate sections that you consider are relevant for NIEA to comment upon such as:**

- ecology/flora/fauna/ornithology/peat;
- landscape and visual assessment;
- water/geology

The characteristics of each site will be different and therefore the issues raised for comment with NIEA should be on a case-by-case basis.

Ecology/Flora/Fauna

RSPB

CNCC (notify if site is located in a sensitive area – e.g. AONB/SPA/RAMSAR etc.)

Historic Environment Division

If the proposal has potential to affect Historic monuments and listed buildings

DARD

Fisheries (if potential to affect watercourses/runoff)

Countryside Management Branch

Rivers/Water – if any watercourses are on site or affected:

DCAL Inland Fisheries

Loughs Agency

Rivers Agency

NOISE/ENVIRONMENTAL HEALTH

Council Environmental Health Department

Adjacent EHD if the site is likely to affect properties in another council area

TRAFFIC

Transport NI

DETI

Energy Branch (See Sch. 3, Part 1(7)(a) of the GDPO)
GSNI (peat slide risk)

The Executive's target is for 40% of electricity consumption to come from renewable sources by 2020. As of end March 2015, the figure stood at 19.9%, mainly from large scale onshore wind farms. A considerable number of consented schemes have yet to be built which, if developed, would contribute further to this target.

Renewable electricity statistics can be obtained from

http://www.detini.gov.uk/index/what-we-do/deti-stats-index/energy_statistics.htm

TOURISM

You may wish to consider consulting Tourism NI if the application is within or has potential to impact upon a tourism asset. See policy TSM 8.

OTHERS

Under Reg. 20 (d) of the EIA Regulations, other bodies may request to be notified of solar farm applications where an application is accompanied by an ES.

For further details on the Consultation Process and Duty to Respond – please refer to Development Practice Note 18.

3. ADVERTISING

If the application is accompanied by an ES – then, in addition to normal procedures under Article 8 of the GDPO, you should also comply with Reg. 20 of The EIA Regs 2015. This requires that you publish notice of the application by local advertisement – stating where the ES is available to obtain from the developer and when comments should be received (4 weeks from date of advert).

4. NEIGHBOUR NOTIFICATION

It is now a statutory obligation to neighbour notify. See Article 8(1)(b) and 8(2) of the GDPO (or DM Practice Note 14) for further detail of this legislative requirement.

Where the application is accompanied by an ES, the NN letter should allow 4 weeks for neighbours to respond in line with The Planning (EIA) Regulations (NI) 2015.

5. ASSESSMENT/EVALUATION OF THE APPLICATION

Once the initial validation has been completed and neighbour notification letters and consultations have issued, and advertisements have been published, the evaluation and assessment of the application can commence. Case officers should also be aware of any previous Pre-Application Discussions (PADs) that have taken place with regard to any planning application received. In addition to normal planning matters, the following matters should be considered:

SITE VISIT

On the site visit, in addition to assessing the landscape and visual impacts of the proposal using the materials provided by the applicant, you should also check the neighbour notification, issues raised by objectors and consultees, as well as carrying out your assessment of impacts on residential amenity where necessary. Any evidence of mammal activity should also be noted (e.g. badger setts).

REPRESENTATIONS

Assess the representations made by third parties and where necessary, copy to appropriate consultee(s) for their expert advice.

Expect representations of support as well as objection.

CONSULTATION REPLIES

Do consultees have sufficient information to enable them to advise the Council or is Further Environmental Information required?

PLANNING POLICY

RDS 2015- 2035

Appropriate Area Plan – **It is important to have regard to the new plan led system that is now in operation (see Part 2(6) of The Planning Act (NI) 2011.)**

The main policy on renewable energy planning applications is Policy RE1 of PPS 18 – Renewable Energy and the accompanying Best Practice Guide (BPG).

Other policy documents that may be relevant include:

PPS 1 – General Principles

PPS 2 – Natural Heritage

PPS 3 – Access, Movement & Parking

PPS 6 – Planning, Archaeology & the Built Heritage

PPS 16 – Tourism

PPS 21 – Sustainable Development in the Countryside

OTHER RELEVANT CONSIDERATIONS

Strategic Energy Framework 2010 – The SEF sets out the Executive’s targets for NI in terms of renewable electricity.

Onshore Renewable Electricity Action Plan 2013-2020 – The aim of the OREAP is to maximise the amount of renewable electricity generated from onshore renewable sources. The development of this resource will take into account the protection of the environment. The OREAP sets out the objectives, targets and range of actions to maximise the contribution of onshore renewable electricity in the period to 2020.

The weight to be attached to these material considerations will be a matter for the decision maker.

Having balanced the comments made by consultees and third parties and assessed the application against the relevant planning policy and other considerations, are you content that you have sufficient information to determine the application?

If the application is accompanied by an ES and Further Environmental Information (FEI) is necessary, this should be formally requested under Reg. 23 of The Planning (EIA) Regulations (NI) 2015. Failure to provide the FEI within the 3 month timescale (or such extended period as may be agreed in writing) will result in a deemed refusal with no right of appeal.

Where FEI is received – the process under Reg. 20 with regard to advertising, notification of 3rd parties and consultations (as appropriate) should be repeated.

6. KEY PLANNING ISSUES

The following issues are matters that generally arise in dealing with solar farm planning applications. This list is not exhaustive and other additional issues may still be required to be addressed in any future applications (e.g. aviation, tourism, etc.)

Landscape & Visual Impacts

The impacts of solar arrays on the landscape will vary according to the size, number and location of the proposal and the type of landscape involved. IS the proposal located within a designated landscape such as an Area of Outstanding Natural Beauty?

Consideration should also be given to boundary treatments, security measures and security lighting. There may be a need to adequately make a solar facility secure but this should be balanced with landscape and visual impacts. Mitigation measures for suitable boundary treatments (e.g. appropriate fencing, hedges, tree planting, soil mounds) may be important considerations in the assessment of the application.

Where security lighting forms part of the proposal, will this have impacts on residential amenity or biodiversity? Can passive lighting technology be used to minimise impacts on humans and animals (e.g. infra-red technology?).

Some solar arrays also follow the daily movement of the sun across the sky to take advantage of maximum solar gain (known as 'tracking'). Other solar arrays are static. The type of solar array installed and the extent of any 'tracking' should be considered in terms of potential landscape and visual impacts. The planning application should clearly indicate the type of array proposed.

If there are other solar farms (or other developments) in the locality – cumulative impacts may have to be considered.

The BPG provides advice and guidance that should be taken into account in assessing all solar proposals.

Glint & Glare

While solar panels are designed to absorb rather than reflect the sun's rays, there may, however, be sensitivities associated with glint and glare in relation to landscape and visual impacts and potential impacts on aircraft safety. Assessment therefore needs to consider the likely reflective capacity of all the materials used in the construction of a solar farm.

Ecology

Solar arrays can have implications for habitat loss, fragmentation and modification and for displacement of species. The nature of impacts will depend on the ecological characteristics of the site and its sensitivity to changes.

Impacts to be assessed can include:

- Designated Sites (SAC/SPA/ASSI). Where necessary a Habitats Regulation Assessment may be required to be undertaken. Birds from SPAs can be impacted outside the designated site and therefore may still have to be considered.
- Species (European Protected Species (such as bats and otters), nationally protected species (birds such as hen harrier and curlew, also badgers, lizards, newts, marsh fritillary) and priority species.
 - Does the boundary treatment impact on species (e.g. access for species such as badger etc)?
 - Construction impacts – how will the panels be mounted and installed? Will this affect species (e.g. pile driving may affect badger setts)
 - Lighting – security lighting may affect bats. Bat surveys may be required and/or lighting directed away from features that bats use for foraging or commuting (hedges/water features etc)
 - Does the proposal require a power line to be installed? This has the potential to impact on migratory birds
- Priority habitats (such as blanket bog, upland heathland, species-rich grasslands, hedgerows)
 - Hedges/trees – will the solar array necessitate the removal of hedges/trees etc? This has the potential to result in loss of bat roosts, bat foraging habitat and bird nesting habitat and priority habitat loss.

- Is there an opportunity for biodiversity enhancement to be incorporated into the scheme?

Will a biodiversity or Habitat Management Plan be necessary?

Archaeology

Solar developments have the potential to impact on the historic environment both above and below ground (sites, monuments, buildings and landscape).

Above ground potential impacts include the setting of listed buildings, historic landscapes and scheduled monuments.

Below ground potential impacts include direct impacts on archaeological remains through ground disturbance associated with construction of foundations/trenching/fencing etc.)

Drainage, Surface Run-off and Flooding

Depending on the size of a solar proposal and its ancillary development (access tracks, compounds, substation), it may be necessary to consider impacts on soils, slopes, drainage, run-off, potential for gullyng, possibility of using SuDs techniques where appropriate, is culverting required?

Residential Amenity

Policy RE1 also specifically advises that ‘development that generates energy from renewable resources will be permitted provided the proposal, and any associated buildings and infrastructure, will not result in an unacceptable impact on:

(a) public safety, human health, or residential amenity;’

It is therefore advised that the potential impacts on residential properties in the locality of the site are assessed (visual impacts, noise, traffic, boundary treatments, lighting etc).

Noise

There may be noise associated with inverter stations.

Additionally, there is the potential for noise impacts during the construction phase including pile driving and construction traffic.

Council Environmental Health Officers should be consulted to assess potential impacts.

Construction, Traffic & Access

The access to the site, and the boundary treatment and lighting are important elements for consideration.

Consideration should also be given to potential impacts arising from the construction phase of the development - including the numbers and types of vehicles, delivery routes for materials and component parts, hours of activity during construction, duration of construction phase and how it will be timed and managed.

Wider Considerations

Policy RE1 refers to wider environmental, economic and social benefits of renewable energy proposals. These are material considerations that must be assessed and weighted accordingly in the overall determination of the application

7. RECOMMENDATIONS

If it is considered that the proposal should be approved, appropriate conditions may be attached to the decision notice on a case-by-case basis taking account of replies from consultees.

If you consider solar farms to be a temporary use of land you may wish to condition the duration of the permission and the need for 'reversibility' and restoration.

Each application should be considered on its own merits and conditions applied accordingly on a case-by-case basis. Case officers should ensure that any condition attached to a decision notice satisfies the six legal tests for conditions. You may wish to refer to Development Practice Note 20 – Use of Planning Conditions for further advice and guidance.

Accordingly, following elements may be conditioned in a planning approval for a solar farm:

- A time frame for implementation;
- Indicate the time period for permission (e.g. 25 years) from the date the development is commissioned to the National Grid;
- Decommissioning and site restoration (including timeframes);
- Boundary treatments (fencing, landscaping);
- Security elements/lighting;
- Ecological conditions/timing of construction/habitat management plans;
- archaeological conditions;
- Noise conditions;
- Hours limiting construction activity;
- Traffic management plan/access layout.

8. POST DECISION

When a decision has issued on an application that was accompanied by an ES, you should ensure that Regulations 25 and 41(c) of the EIA Regs are complied with:

Advertise the decision in compliance with Reg. 25(1) (note requirements of Reg. 25(4) if an EIA application is determined by the Commission.)

Place Statement on file to comply with requirements of Reg. 41(c)

Third parties and consultees should also be notified of the decision.

9. COMPLIANCE/DISCHARGE OF PLANNING CONDITIONS

Article 12 of the GDPO refers to 'applications made under planning condition.' Where an application is made for any consent, agreement or approval required by a condition imposed by a grant of planning permission, notice shall be given to the applicant of its decision on the application within a period of 8 weeks (or such longer period as may be agreed in writing).

It is very likely that a number of the conditions that are applied to any planning approval for a solar farm will be required to be discharged prior to commencement of development. The applicant will be required to identify the appropriate condition and supply the required information.

Where necessary, advice should be sought from appropriate consultees to confirm that information is sufficient to discharge the condition.

You will need to confirm (or otherwise) to the applicant that the condition is discharged/complied with or if further information is necessary to do so.

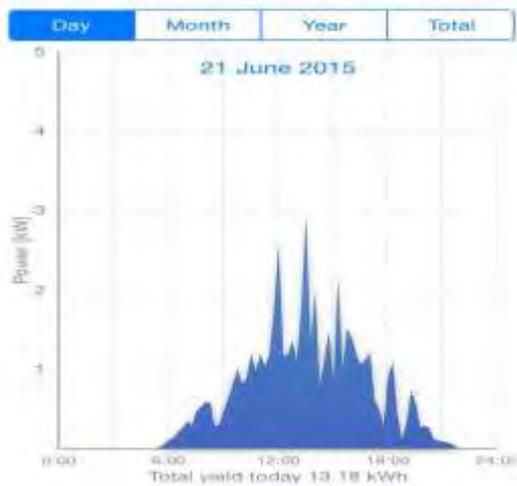
This information should be held with the planning file and uploaded to the planning portal.

If the application is EIA development, please note the requirements of Reg. 12 (EIA Regs) 2015 in relation to 'subsequent applications' may apply.

Appendix – Figures for Actual Solar Generation at this Site

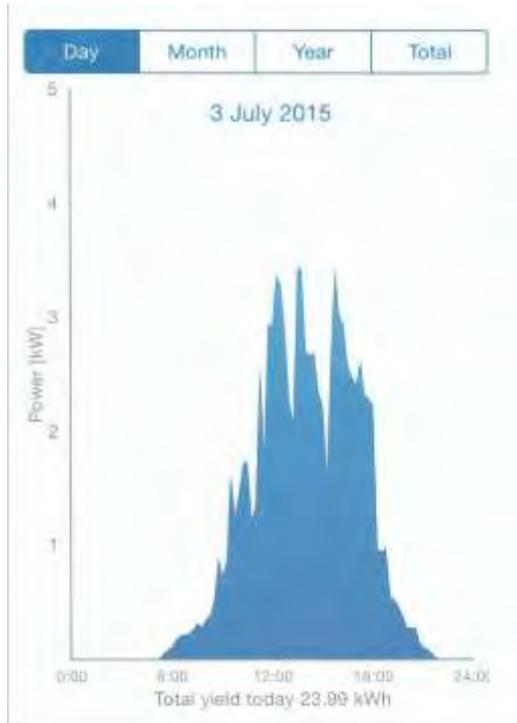
On the longest day of the year at the proposed site a minimum amount of electricity was produced. Sunrise is 4.30am. Sunset is 10.30pm.

Outside the hours of 9.00am to 7.00pm a negligible amount of electricity is generated as the sun is too far to the East or the West

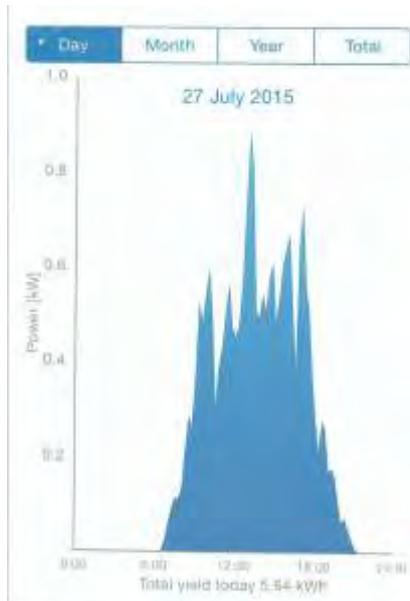


As well as fluctuations during the day there are also massive differences in daily output.

In 3rd July 2015 production peaked at 23.99 kWh



By contrast on 27th July 2015 only 5.64kWh was produced (the scale of the graph reflects the fact that generation never reached 1kW)



4KW solar system installed at 15 Whappstown Road on 2nd June 2015

June output 481 KWh

July output 440 KWh

August Output 424 KWh

September 300 KWh

October 220 KWh

November 1 – 21st 25 KWh = pro rata 36 KWh for November.

Solar generation is the most ineffective and unreliable form of renewable energy.

Production between dusk to dawn is nil.

Production between dawn and dusk peaks and troughs as cloud passes over.

Production over a week varies depending on sunshine or lack of it.

Production over a month falls as the short days of winter approach.

The days in November have been so short and so dull that virtually no electricity is produced.

In mid-winter the sun is so low in the sky that virtually no electricity is produced.

Economics Branch

Finance Division
DRD/DOE
Clarence Court
10-18 Adelaide St
BT2 8GB

Consultation response to the proposed erection of 14 wind turbines in Lisnahaney, Omagh.

Application Reference	K/2013/0181/F
Our Reference	KM/24/10/13
Proposal	Windfarm at Lisnahaney, Omagh
Location	Lands to the north of Lisnahaney Road, and south of Liscabble Road, within the townlands of Ballynatubbrit, Dunbunrawer, Lisnahaney and Eskeradooey, approximately 3.5km south-west of Gortin
Date Consulted	05/09/13
Date of Response	24/10/2013

Planning Application Number: K/2013/0181/F

Economic Impact Study

Economics Branch have been asked to comment on the socio economic commentary in the planning application for the wind farm at Lisnahaney, Omagh. The socio economic impacts were estimated by Oxford Economics in an Economic Impact Study.

Given the information provided by Oxford Economics, the proposal appears to have the potential to bring an economic benefit to the local area, and indeed Northern Ireland. However, whilst we are not in a position to refute the estimates given by Oxford Economics, we feel that there are additional factors that should have been included in the economic analysis to give a full picture of the economic costs and benefits. These have been outlined in the following comments.

1. The economic benefits that are presented appear to centre on the creation of jobs and the subsequent multiplier effect that this has. However, job creation linked to renewables is currently subject to some debate. There are a number of reports which argue that jobs created

in this sector are done so at the expense of jobs elsewhere in the economy. For example a recent report suggests that for every job created in the UK in renewable energy, 3.7 jobs are lost or foregone in the rest of the economy.

The key reasons for this are related to the grants and subsidies being paid, feed-in tariffs and the existence of the Renewables Obligation. Not only could this money have been spent on other projects (an opportunity cost), the price of electricity is artificially raised which means increased costs for households and businesses. Note that this is not necessarily definitive analysis, particularly as it may not be considered impartial analysis; however, it is important to recognise that there are differing schools of thought in regards to wind farms and job creation.

Fuel poverty and the impact on households is another point to consider, particularly in NI where fuel poverty is relatively high compared to the rest of the UK.

2. The viability of the proposal, in other words whether or not there would be sufficient revenue in the longer term to enable the proposal to survive commercially, is unknown. The economic statement does not examine this issue but I would imagine that the developers would have made such projections before embarking on any investment. The proposal would only have a positive economic impact if it continued to operate successfully.
3. There are negative externalities (noise, visual and environmental) pollution that also need to be considered in the decision making process. From an economics perspective, these externalities have a value and only when the total cost of the proposal (including these wider costs) are compared against the potential benefits can we make a judgement about the net impact on the economy. This would ideally be done in the form of a cost benefit analysis or economic appraisal.

In conclusion, based on the report and the current economic climate, the proposal could be a valuable opportunity to increase investment in the area but we are not in a position to either support or oppose the proposal until the issues above have been considered. An economic appraisal or a cost benefit analysis would show a fuller picture of the net cost/benefit of the proposal.

Appendix 5 – Evidence of Breeding Curlews at the Site



Pair breeding curlews on land to west of Whappstown Road, adjacent to the lake at Mann's Hill

Latitude 54; 48;40.600, Longitude 6;9;10.7700,Altitude 164.8 – photograph taken 29th March 2015



Curlew on land to the west of Whappstown Road adjacent to the lake at Mann's Hill. Latitude 54; 48; 40.7460, latitude 6; 9; 10.5180, Altitude 173, photograph taken 29th March 2015



Photograph of curlew nest taken from Speerstown Rd looking across development site towards the Whappstown Road. Close up of nest shown below.



Enlarged photograph of curlew nest on land on southern side of Speerstown Road.

Flood Risk Assessment

Reach Community Solar Farm

Andy Rankin

4th February 2014

Introduction

- 1.1 Reach is a village of approximately 100 households on the edge of the Fens. We intend to construct a small solar farm that should generate sufficient electricity each year to match the consumption in the village. The solar farm will be owned and operated by a non-for-profit co-operative.
- 1.2 We have identified a site on the outskirts of the village that is suitable for our purposes, and have a provisional agreement with the owner to lease the land. An 11kV line crosses the land, and UK Power Networks have confirmed that it will be possible to connect into this line.
- 1.3 The site is approximately 1 hectare. Around 1/3 of area will be covered with solar panels mounted on steel frames. The remainder will be kept as grassland, and we intend to mount the panels sufficiently high off the ground that grazing of sheep can continue on the site.
- 1.3 The land is very gently undulating. Some of the land lies within flood zone 1, but towards the eastern side of the site it falls away slightly, and falls within flood zones 2 and 3.
- 1.4 The site benefits from flood defences built along the banks of the River Cam, Reach Lode and Swaffham Bulbeck Lode.
- 1.5 We consider here the risk of increased run-off from the solar panels. We also consider whether the site might be at risk if the flood defences along the Cam or Lodes were to be breached.



Figure 1: Proposed site for community-owned solar farm. Picture taken from the junction of Little Fen Drove with Blackberry Drove, looking North.

2 Site Description

- 2.1 The site lies at the edge of the fens. To the south-east the land rises gently towards the villages of Reach and Swaffham Prior. To the north, the land gradually falls to below Ordnance Datum. A network of drains managed by Swaffham Internal Drainage Board divert water within this area to the pumping station at Upware, which pumps it into the River Cam.
- 2.2 The lowest point in the site is approximately 2m above the water level in the drain which runs along the north-western and north-eastern borders of the field.



Figure 2: Location plan. The site (marked in red) lies just below the 5m contour and is drained by ditches maintained by Swaffham Internal Drainage Board on the north-eastern and north-western boundaries. To the north the land drops to below sea level.

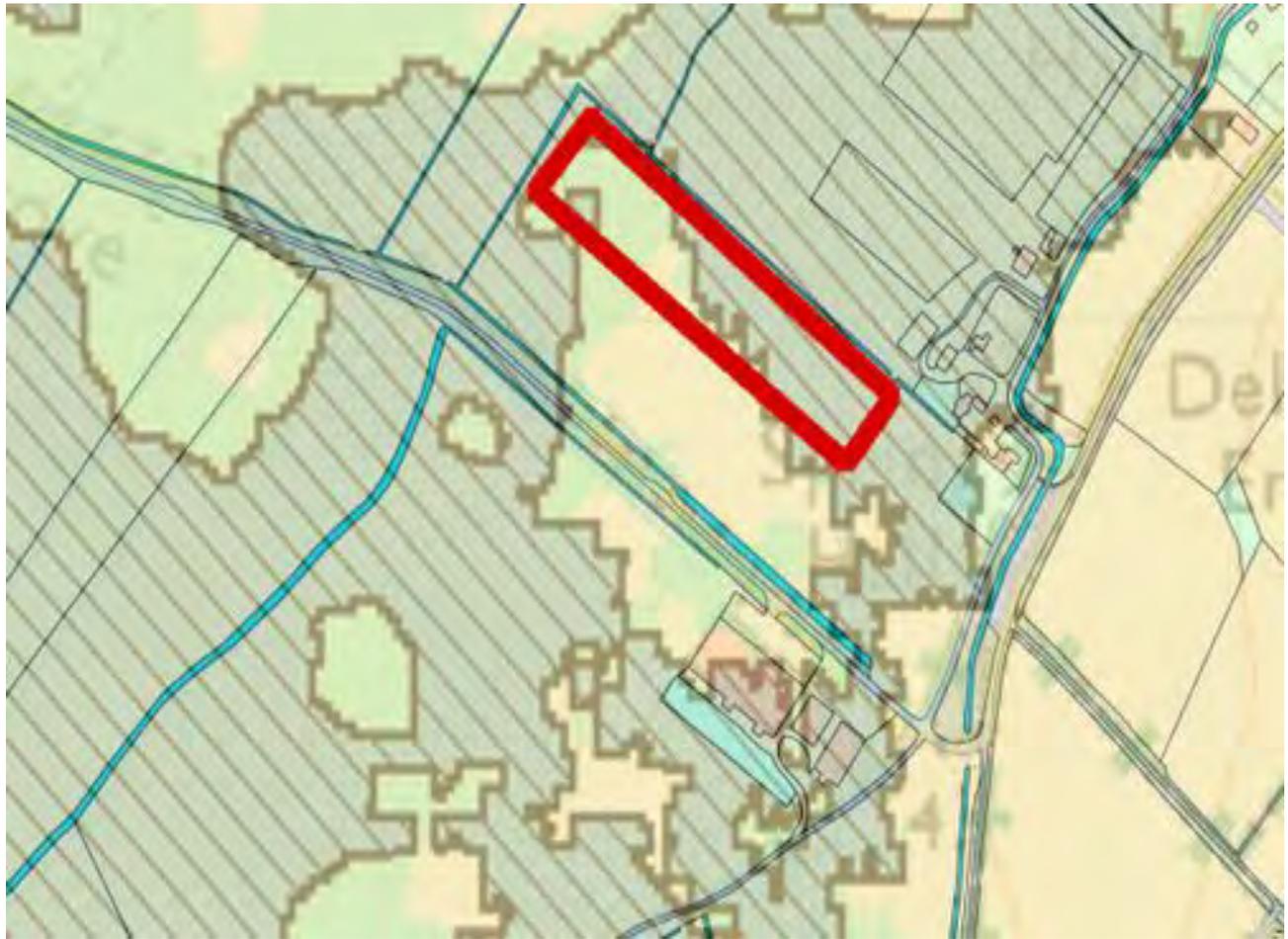


Figure 3: Site plan with flood map overlay. The boundary of the region covered by solar panels is shown in red. Light blue is flood zone two, dark blue is flood zone three. The hatching indicates that the area is protected by flood defences.

3 Risk of inundation and over-topping of flood defences

- 3.1 Although the site lies partially within zones with a theoretical risk of flooding, in practice the flood defences along the Cam and along Swaffham Bulbeck Lode and Reach Lode, along with the extensive network of maintained drainage ditches and the pumping station at Upware, maintain safe levels within the area managed by the Swaffham Internal Drainage Board. As long as the flood defences remain intact and operational practices stay in place to maintain the levels there is a very low likelihood of flooding at the site.
- 3.2 It is difficult to assess the risk of over-topping or failure of the flood defences. At present the defences are well maintained, and it is considered extremely unlikely that a major failure will occur. In the event that a failure did take place however, levels could in theory eventually rise to an extent that flooding could occur over parts of the solar farm site.
- 3.3 It should be noted that there is considerably lower land to the north of the site; much of Adventurer's Fen and Swaffham Prior Fen lie below Ordnance Datum. In the event of a failure, an area of many square miles of this lower-lying land would have to flood to a depth of several meters before the solar farm was threatened. The risk of this happening is extremely low.
- 3.4 Panels will in any case be mounted such that junction boxes and isolators are at least 1m above ground level. Armoured cable, which can withstand flooding, is the only electrical component that will be used below this level. Even in the very unlikely event of breach of the river defences severe enough to cause flooding at the site, water levels are not likely to reach the height of any electrical component that would be affected by the flood waters.

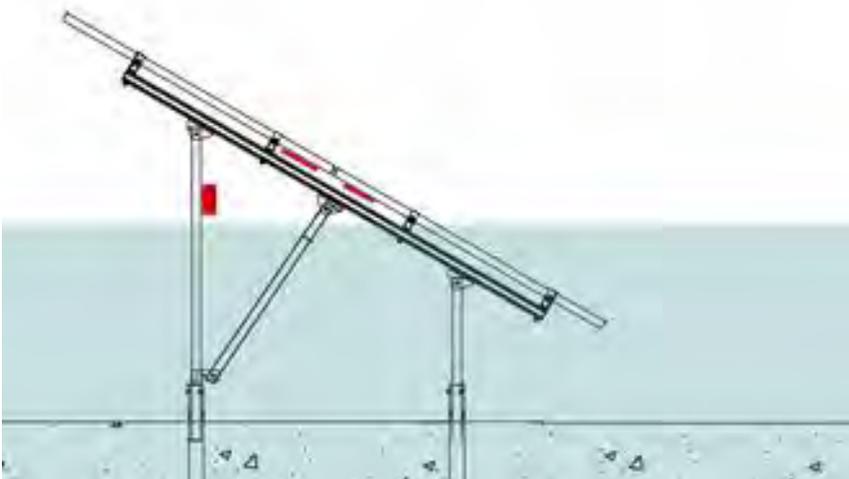


Figure 4: Mounting frames. The only components sensitive to water ingress are the junction boxes and isolators – shown in red. Water levels would have to reach at least 1m before these were affected by flood waters.

4 Run off

- 4.1 As solar panels are impermeable, they will shed water to the lower (southern) edge of each row of panels. There will therefore be a small strip beneath the lower edge of each row of panels that will receive a slightly higher amount of rainfall, while the strip of earth directly below each row of panels will be drier. If the ground under the front of each row of panels is not able to absorb the water, run-off could occur.

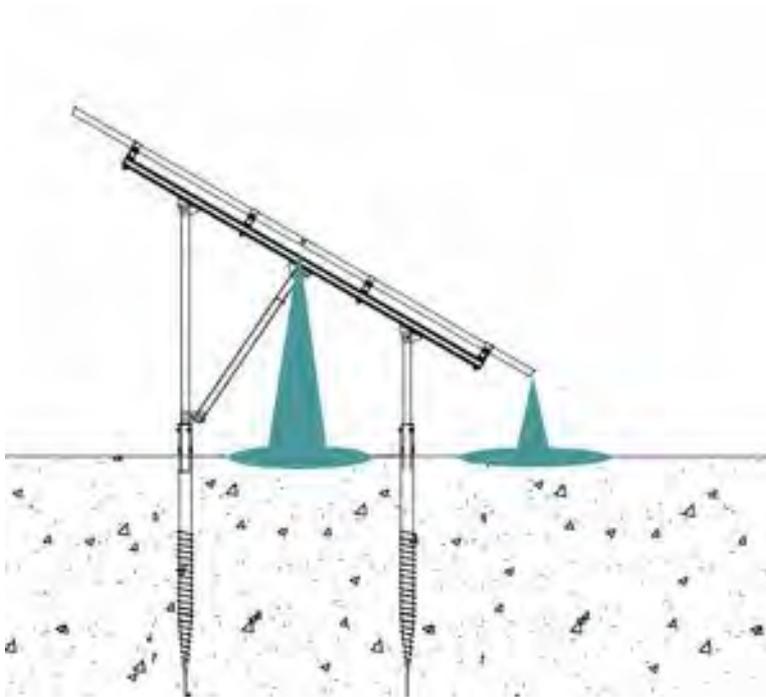


Figure 5: Run-off due to concentration of rainfall to the front edge of each row of panels.

- 4.2 We understand that there has been at least one case where solar panels, installed on a steep slope on compacted clay, have caused increased run-off owing to the infiltration rate of the land not being sufficient to absorb the increased water falling upon it.
- 4.3 The principal factors affecting infiltration rate are soil characteristics, vegetation cover, and slope angle.
- 4.4 Grass cover helps reduce runoff and erosion by slowing movement of water in the affected areas.
- 4.5 Clay soils are less permeable and at more risk of flooding than sandy or peaty soils, and permeability can be further reduced by compaction of soils – for example by vehicle movements during development.

4.6 Slope angle is a very important factor in determining the behaviour of water reaching the ground. Water will run very rapidly from a steep slope, but will pool on flatter areas, allowing it to permeate into neighbouring drier areas.

4.7 At the proposed site for the community-owned solar farm at Reach, the following factors will reduce the likelihood of increased run-off:

- We intend to retain vegetation beneath and around the solar panels.
- The ground is fairly level, so even if the infiltration rate of the soil is exceeded the velocity of any standing water that does begin to form will be slow, giving a greater likelihood that it will be absorbed by the drier land under the panels.
- The ground at Reach is well drained. Recent archaeology studies showed between 300 and 500mm of free-draining soil above the clay subsoil throughout the site. As the site is small total vehicle movements over the ground during the build will be limited, so the ground will not be compacted to the extent that it would be in larger developments.



Figure 6: Soil characteristics. The clay subsoil is covered with well-drained topsoil throughout the site.

- 4.8 Owing to the low ground slope, retention of vegetation, and well drained soils we do not expect measurably increased run-off as a result of the installation of the panels.
- 4.9 Swaffham Internal Drainage Board had no objections to the proposal when contacted in our initial Screening Opinion request to the Council. They will however be consulted again when the planning application is lodged.

5 Drainage Checks

- 5.1 As solar farms are relatively new and the effect of increased run-off is uncertain, the Environment Agency have recommended for similar sites that monitoring be undertaken at six monthly intervals for increased flooding or erosion^[1]. If problems are encountered at the site, remedial action can then be taken.
- 5.2 We propose the following simple monitoring scheme for problems due to increased run-off. The checks will be undertaken by staff visiting the site for maintenance visits at 6 monthly intervals, and the results of the checks recorded.

Check	Action required
Check for the presence of standing water at the site	If standing water is present on the land a drainage engineer should be consulted.
Check for presence of water channels forming, or soil erosion	If water channels are developing or there is any evidence of soil erosion a drainage engineer should be consulted.
Check that ditches bounding the site are not blocked or overgrown	Ditches should be cleared if necessary. The local Drainage Board should be informed if there are any blockages in the drains that they maintain.

- 5.3 If the regular monitoring demonstrates that erosion or flooding is occurring, professional advice will be sought on a course of action to improve the drainage.

[1] <http://docs.huntsdc.gov.uk/AnitePublicDocs/00332751.pdf>

6 Summary

- 6.1 Parts of the site lie within flood zones 2 and 3, and if undefended would be at high risk of flooding during a 100-year flood event.
- 6.2 There are however extensive flood defences along the River Cam and the Lodes, together with a network of drainage ditches to drain the area to the pumping station at Upware. The flood defences and drainage system should prevent flooding in normal circumstances.
- 6.3 There remains a small possibility of breaching of flood defences or over-topping. However, as the site is several meters higher than the land to the north, a very considerable volume of water would have to flow into the area before the site itself was threatened by floodwater.
- 6.4 Solar panels are impermeable, and will shed water to the lower (southern) side of each row. There will therefore be a slight increase in water reaching the ground at these points. However, the ground at the site is well-drained, and vegetation will be retained at ground level. As the ground is flat water that falls from the panels is likely to permeate into the drier ground behind rather than run off as surface water.
- 6.5 A perimeter track allows access to nearby drains for maintenance. This is carried out regularly by the local Drainage Board.
- 6.6 Checks will be undertaken at six-monthly intervals for the presence of increased standing water or erosion at the site. If problems are encountered, professional advice will be sought and action taken to improve the drainage.
- 6.7 There are precedents for planning permission being granted in similar locations. For example, the nearby solar farm at Chittering is largely in flood zone three, but is also protected by the flood defences of the River Cam catchment. The Chittering development is more than an order of magnitude larger than the scheme that we propose, and is at a lower elevation.

Appendix 7 –Solar Developments in England

Below are photographs of two solar developments on UK mainland which demonstrate very clearly the realities of Solar Power Stations of this magnitude.



Solar Power Station at RAF Coltishall in Norfolk. www.bbc.co.uk/uk-england-norfolk



Construction impact at the 49.9 MW Solar Power Station at the disused West Raynham Airfield at Fakenham in Norfolk. The impact on the ecology – flora, habitats and species is undeniable.

www.goodenergy.co.uk

A picture paints a thousand words

NIEA Guidance on LCAs

From NIEA website:

Key Characteristics of the LCA: Tardree Upland Pastures Landscape - two thirds of the application site falls into this LCA.

- *Extensive upland plateau of marginal pastures, rising to 353m at Big Collin.*
- *Poorly drained grassland has extensive, rushy wet flushes and encroaching heather.*
- *Field boundaries of well-maintained stone walls or simple, unobtrusive post and wire fencing.*
- *Straight roads and electricity pylons cross the landscape, cutting straight paths at an angle to the grain of the landscape.*
- *Scattered dwellings on lower ground, with some concentrated development in the Glenwhirry Valley.*
- *Small scale peat cutting.*

Landscape Description

The Tardree Upland Pastures are found on the broad, rounded summits of upper basalt to the south-west of the Larne Basalt Moorland. This is a transitional landscape, with characteristics of both upland moorland and lowland farmland; the pronounced open valley of the Glenwhirry River is an important local landscape feature. The area includes the southern fringes of the Antrim uplands on the northern slopes of the Six Mile Water Valley. The summits and south facing slopes of Tobernaveneen Hill, Donegore Hill and Drumdarragh Hill are prominent in views from the town of Antrim and the valley.

The topography of the area is undulating, rising to 353m at Big Collin. Sheep grazing dominates as the major land use within this highly textured landscape and the marginal rough pasture land is divided by stone walls. The landscape is relatively open, although the conifer plantation of Tardree Forest extends high onto the slopes of Tobernaveneen Hill. There are no distinct settlements, but built development is scattered across the countryside and small stone farm houses provide shelter within the exposed landscape. Settlement is concentrated in the Glenwhirry Valley where a more sheltered aspect provides a setting for infrastructure, including roads, pylons and a disused railway.

The windfarm on the slopes of Big Collin is a local landmark, visible for miles around and there are a number of quarries close to the foot of the hills which are prominent in some valley views.

Landscape Condition and Sensitivity to Change

The condition of the landscape varies; in some areas there are intact stone walls and well maintained fencing, but elsewhere it is degraded due to the presence of quarries, electricity pylons and prominent development. Relatively low grazing pressures ensure that a variety of habitat types are supported. The landscape is fairly sensitive to change due to its relatively elevated position and the long, open views from surrounding ridges. The summits are most sensitive to built development and it would be particularly conspicuous on the slopes of Big Collin, Donegore Hill and Drumdarragh Hill, which form a prominent ridgeline in the landscape. The south-facing slopes of these hills form part of the landscape setting to the town of Antrim and the field patterns are a distinctive component of views from the M2.

Principles for Landscape Management

- *Changes in grazing pressure may alter the texture and land-cover of the landscape; retention of correct stock densities and grazing pressure will ensure that the diverse texture of this marginal landscape is maintained.*
- *Coniferous forestry should be sensitively sited to ensure that it does not change the character of the landscape or block important views across the ridges.*
- *Re-instatement and maintenance of field boundaries will retain the robust landscape structure.*
- *Restoration and enhancement of old quarries will ensure they do not permanently scar the landscape and improve their nature conservation potential.*

Principles for Accommodating New Development

- *Restoration of traditional small stone cottages will maintain landscape condition and highlight these built landscape features which are of considerable heritage interest.*
- ***Roads which fit with topography**, winding around prominent landforms will enhance experience of the landscape and prevent erosion of the grain of the landscape.*
- *The small upland valleys and lower hill sides may create settings for new built development.*
- ***Development which is set back from the roadside and is concentrated in small areas will ensure that ribbon development does not dominate and that scattered housing does not erode the rural character of the landscape.***

From NIEA website:

Key Characteristics of the LCA: Tardree and Six Mile Water Slopes - one third of the application site falls into this LCA.

- *Undulating land on the lower slopes of the Six Mile Water valley.*
- *Mixed patterns of fields and woodlands of different scales, with woodland cover increasing to the east.*
- *Hummocky pastures with hillocks, rock outcrops and rough grazing.*
- *Leggy hedgerows and degraded field boundaries.*
- *Scattered farms and small holdings; many with outbuildings.*
- *Lines of hedgerow trees and some mixed woodland on lower slopes.*
- *Numerous small villages.*
- *Archaeological remains including raths, stone circles, standing stones and chambered graves.*

Landscape Description

The Tardree and Six Mile Water Slopes wrap around an area of high basalt moorland which includes the summits of Carn Hill, Big Collin, Wee Collin, Tardree Mountain and Douglas Top. The area lies between the high ground of the Tardree Upland Pastures and the Tardree and Six Mile Water Valleys. It is characterised by an area of relatively degraded undulating farmland with overgrown, leggy hedgerows and rushy pastures. The uneven topography results in an irregular field pattern. Hedgerow trees create a wooded appearance in some views, although in others their uneven and leggy forms give the impression of mismanagement and neglect. The steeper slopes, on the edge of the basalt moorland to the north, become progressively more wooded towards the east.

There are no major settlements in the area, but many small settlement clusters, farms and smallholdings are scattered across the lower valley slopes where they are sheltered by landform and well connected by a dense network of roads. Archaeological remains, such as Wileys Fort, raths and standing stones, indicate the long history of settlement on these accessible slopes. A network of lanes and minor roads criss-cross the landscape and permit some long and sweeping views into the valley of the Six Mile Water.

Landscape Condition and Sensitivity to Change

The landscape appears rather degraded due to the neglect of field boundaries and pasture, especially towards the valley bottom. The presence of a multitude of electricity pylons, especially around Hillhead where they converge at a power station, intrudes into the rural setting. The steeper slopes, on the fringes of the upland areas to the north, are particularly sensitive to change. Elsewhere, the landscape's sensitivity to change is increased by views from the surrounding uplands. There is some scope to accommodate a variety of development, provided it is associated with tree planting to provide an appropriate level of screening.

Principles for Landscape Management

- *The preservation of the numerous archaeological sites, and the provision of public access to them, would enhance these landscape features which are particularly characteristic of the area.*
- *Management of hedgerows and field boundaries would improve landscape condition and enhance visual amenity.*
- *Expansion of woodland (and commercial forestry) should be sensitively designed to ensure that the characteristic diverse pattern of fields and woodland on the steeper slopes is retained.*

Principles for Accommodating New Development

- *Scattered housing in the countryside may detract from its rural character; housing styles could be better unified by drawing on vernacular details.*
- *Larger scale development could be screened using woodland planting; this would provide opportunities to extend and improve the wooded network, linking new planting to existing hedgerows and shelterbelts.*
- *Farm outbuildings could be painted to make them features rather than eye sores within the landscape; a dark red colour creates an attractive contrast with the landscape and responds to the traditional colours found within the rural setting.*

APPENDIX 9 Archaeology and Cultural Heritage

1 Heritage features

The Early Bronze Age standing stone at nearby Carncome

Souterrains, Earthworks, Rathes and the ruins of the ancient church and monastery in Kells and Connor

An early Christian settlement in Connor was established in 480 AD and a monastery in Kells in 500AD. The church of the early monastic establishment was rebuilt as the cathedral of the medieval diocese of Connor and Kells

The present Church of St Saviour was built on the original site in the nineteenth century. In the Middle Ages an Augustinian community was founded in Kells and the Abbey survived until the early seventeenth century, but was burnt in 1641.

The sacking of the churches in Kells and Connor by the Vikings in the 9th Century

Edward Bruce, the younger brother of Robert the Bruce, came over from Scotland and landed in Larne and set up court in Carrickfergus. His army defeated Robert de Burgh, 2nd Earl of Ulster at the Battle of Connor in the adjacent townland of Tannybrake. He then sacked the garrison at Connor, continued to move south with his army to take Dundalk and for a short period become High King of Ireland until his defeat and death in 1318 at the battle of Faughart in County Louth.

The Ulster-Scots Agency has recently marked the significance of the Battle by including Connor as one of the 11 sites to be included in the Bruce 700 Trail. A granite memorial with an interpretive panel is to be erected in Connor. It is hoped that inclusion in the Bruce trail will boost tourist potential not only for the local economy but for the wider Ballymena and north Antrim area. There has also been a recent two-part BBC docudrama entitled 'War of the Three Kings' which outlined Bruce's campaign in Ireland with particular reference to the Battle of Connor.

There are three World War 2 sites in close proximity to the development site, on Speerstown, Craigstown and Kilgad Roads. These were the camps that Gibraltarian evacuees occupied during the war. Ballymena retains its contact with evacuees and their families, some of whom return to visit the area regularly.

Slemish Mountain, a 60 million year old volcanic plug, rises dramatically out of the landscape to the north of the site. It is of world importance due to its association with St Patrick. Slemish also has historic links to United Irishman leader Henry Joy McCracken who is reputed to have hidden out at the mountain before his ultimate capture and death.

Close proximity to Tardree forest, one of Northern Ireland's oldest state forests and Tardree Hill – 60 million year old volcanic vent

Close proximity to ASSI sites Sandy braes and Tardree Quarry - 60 million yr volcanic rock – rhyolite.

2 Definitions of cultural heritage

*“Having at one time referred exclusively to the monumental remains of cultures, cultural heritage as a concept has gradually come to include new categories. Today, we find that heritage is not only manifested through tangible forms such as artefacts, buildings or landscapes but also through intangible forms. **Intangible heritage includes voices, values, traditions, oral history. Popularly this is perceived through cuisine, clothing, forms of shelter, traditional skills and technologies, religious ceremonies, performing art, storytelling. Today we consider the tangible heritage inextricably bound up with the intangible. In conservation projects we aim to preserve both the tangible as well as the intangible heritage**”.* (Culture in Development. <http://www.cultureindevelopme>)

And

“The term Cultural Heritage encompasses several main categories of heritage:

Tangible cultural heritage –movable cultural heritage (paintings, sculptures, coins, manuscripts)

Immovable cultural heritage (monuments, archaeological sites, and so on)

Underwater cultural heritage (shipwrecks, underwater ruins and cities)

Intangible cultural heritage: oral traditions, performing arts, rituals.

Natural heritage: natural sites with cultural aspects such as cultural landscapes, physical, biological or geographical formations.

Heritage in the event of armed conflict.”

<http://www.unesco.org/new/en/culture/themes/illicit-trafficking-of>

And

*“Cultural heritage is the legacy of physical artefacts and intangible attributes that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations. **Cultural heritage includes tangible culture (such as buildings, monuments, landscapes, books, works of art and artefacts), intangible culture such as folklore, traditions, language and knowledge) and natural heritage (including culturally significant landscapes, and biodiversity).*** (Wikipedia definition)



610

RESPONSE TO ENVIRONMENTAL STATEMENT ACCOMPANYING PLANNING APPLICATION LA03/2015/0234/F

INDEX

A	(1) Introduction	Pages 1 - 3
B	Executive Summary	Pages 4 - 14
C	Non-Technical Summary	Pages 15 – 41
D	Design and Access	Pages 42 – 91
E	(2) Project Description	Pages 92 – 108
F	(3) Scoping and Consultation	Pages 109 – 115
G	(4) Alternatives	Pages 116 – 128
HI	(5) Plans and Policies	Pages 129 – 178
JK	(6) LIVA	Pages 179 – 207
L	(7) Terrestrial Ecology and Ornithology	Pages 208- 265
M	(8) Flood Risk and Drainage	Pages 266 – 278
N	(9) Archaeology and Cultural Heritage	Pages 279 – 296
O	(10) Glint and Glare	Pages 297 – 299
PQ	(11) Land Use and Human Environment	Pages 300 – 319
R	(12) Soils, Geology and Hydrogeology	Pages 320 – 329
S	(13) Noise and Vibration	Pages 330 – 339
T	(14) Traffic and Transportation	Pages 340 – 345
UV	(15) Water Quality and Fisheries	Pages 346 – 348
W	(16) Air Quality and Climate	Pages 349 – 384