ISEA
Irish Solar Energy Association

Planning Considerations for the Development of Ground Mounted Solar

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FOREWORD

A message from David Maguire, Chairman of ISEA.

As a responsible representative industry body, The Irish Solar Energy Association (ISEA) wants to ensure that development of utility scale, ground mounted solar is carried out in line with international best practice. This document provides planning considerations for the development of same. Further to this, ISEA acknowledges the growing number of planning applications to local authorities for ground-mounted solar photovoltaic (solar PV) developments in Ireland, and in the absence of guidance, the ISEA has set out what it believes is the appropriate level of best practice development.

The considerations put forward in this document are based on the experience of ISEA members in Ireland, the United Kingdom, France, Germany and the United States in the development of solar projects. These have been adapted to comply with Ireland's regulations in relation to planning, environmental protection and agriculture.

Solar currently meets 4% of the total electricity demand in Europe and is projected to meet up to 15% of the demand by 2030. The technology is cheaper to deploy than new CCGT, coal and nuclear power plants. Solar is and has been the leading form of renewable technology globally for a number of years and the cheapest form of renewable energy generation after onshore-wind in Ireland. Yet Ireland is the last EU member state to introduce a support mechanism for solar PV. Given the announcement of the public consultation on the Renewable Electricity Support Scheme (RESS), the industry is taking the initiative in this document to publish its own proposals in the area of planning considerations and recommendations. This has its benefits in that Ireland has a late mover advantage to this technology and we can now deploy solar into our energy mix in a cost effective, sustainable and time efficient manner. This is of critical importance in terms of bridging the 3% deficit (SEAI) in our climate target obligations between now and 2020.

We can learn from the mistakes of others and implement best practice in designing the support mechanism, planning guidelines, quality standards and the interaction of solar with agriculture, community and biodiversity. We are actively working to bring forward recommendations in each of these areas.

David Maguire
Chairman of ISEA

The structure of the document is as follows:

- Introduction to the ISEA;
- Planning considerations;
- Solar PV Design considerations;
- Appendix detailing relevant environmental considerations.

The ISEA would like to take this opportunity to thank the members of the ISEA Planning and Environmental Work Group for their contributions to this document. The ISEA would like to thank all those stakeholders and groups that have consulted on this document.

Source Lightsource Renewables

1. INTRODUCTION

The ISEA was founded in May 2013 and is the solar industry representative body for the island of Ireland. With over 100 members, the ISEA is committed to bringing attention to the value of the potential for solar energy's contribution to Ireland's economic and environmental future. The ISEA is committed to contributing to the development of viable renewable energy policies that support the development of solar in Ireland via research, consultation, conferences and other forums that bring key stakeholders together to shape policy. The ISEA is keenly aware that in order to build a long-term sustainable industry in Ireland, a stable regulatory framework is required. In order achieve this, the industry must deliver value for money to the exchequer and consumer and gain popular support.

While solar technology has reached maturity, it is rapidly improving in efficiency and reducing in cost. Furthermore, it has minimal impact on the environment with maximum benefits. Solar is forecast to become the most economically viable renewable energy source in the coming years globally. Indeed, in the last five years the total global investment in solar has eclipsed that of wind year on year (Bloomberg) and in 2015 global investment exceeded $161bn which was more than coal and gas combined (The Economist). The economic opportunity is huge, yet we are the last EU member state to offer a support mechanism for solar PV. It is widely expected that the new support scheme for renewable energy will be implemented in 2018 and will be a market driven auction mechanism.

There is an immediate risk that Ireland may not meet its 2020 renewable electricity target, thereby attracting significant fines from the EU in the order of €100m per annum per 1% missed. We cannot rely on wind alone to meet this challenge and solar is the cheapest form of renewable generation after on-shore wind in Ireland. Furthermore, solar can deploy rapidly with minimum development and construction timeframes.

In terms of energy security, Ireland imports over 88% of its energy demand (the highest in Europe). Solar can contribute to ensuring that Ireland is less dependent on importing energy and help improve our energy security.

Finally, solar can create significant economic benefit with KPMG estimating that for every €1 of support the industry receives, it will contribute €3 to the economy in direct taxes and gross value added. The solar industry can create and support circa 7,300 direct jobs in Ireland *(KPMG, 2016)*.

The ISEA recognises the potential for solar in Ireland and works with its members and other stakeholders to promote solar not only as a means of meeting Ireland's statutory renewable energy and electricity targets, but also as a long-term sustainable and clean form of energy with numerous benefits for Ireland economically, socially and environmentally.

The ISEA recognises the importance of planning guidance and has sought input and feedback from various stakeholders, community groups, government bodies and NGO groups in Ireland in preparing this document. This document seeks to address the lack of guidance for solar and present best practice requirements for solar and planning in an Irish context.

1.1. Solar PV

Solar PV converts the sun's radiation into electricity to help move away from carbon based generation. When light shines on the cell it creates an electric field across the layers causing electricity to flow. The more intense the light is, the greater the flow of electricity. Solar cells can be wired together to form a module (a solar panel) and these can then be connected to form an array. Figure 1-1 adjacent provides an overview of a solar power system.

Although Ireland is not known for long hours of sunshine, it is actually the visible light that drives the PV cells. The big advantage that Ireland has is that when the seasonal intensity of visible light is at its peak, we have long hours of daylight.

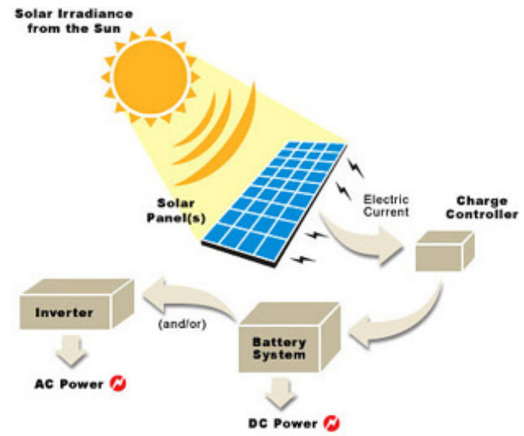

Figure 1-1 Working of Solar Power System[1]

1.2. Benefits of Solar in Ireland

A substantial decline in the cost of solar PV power plants has greatly improved solar PV's competitiveness, enabling solar to compete with other power generating options. The key advantages of solar PV are:

- Solar PV is now the cheapest form of renewable generation in Ireland after on-shore wind;
- The development of solar technology in Ireland will support economic activity and jobs;
- Solar PV can increase Ireland's energy security and reduce dependency on foreign energy supply;
- Solar PV can empower Irish citizens and communities to take control of the production and composition of energy;
- Solar PV has no moving parts, has little visual impact, has no emissions and does not generate noise.

Most significantly, the deployment of renewable energy such as solar PV reduces greenhouse gas emissions and prevents depletion of natural resources, thereby **contributing to future climate stability.**

Source Lightsource Renewables

[1] Source: http://efxkits.com/blog/working-of-solar-wind-hybrid-system/

1.2.1. Employment Potential

Ireland's commitment to renewable energy in meeting our demands, and the need for energy security, is an opportunity not only for innovation but also for employment.

Within the renewable energy sector there are several types of employment opportunities:

- *Direct employment:* Jobs provided by companies directly involved in the core activities pertaining to PV such as production of PV products and completion of projects;
- *Indirect employment:* Jobs provided by companies that support the core activities of primary companies;
- *Induced employment:* Employment generated because the jobs created by the sector increase purchasing power of people involved in it;
- *Long-term employment:* Jobs that are maintained for several years, i.e., operations and management;
- *Short-term employment:* Temporary jobs that are generated for specific aspects of the implementation of PV projects, namely, manufacturing, construction and installation.

In 2016 KPMG produced a report which estimated that:

- 3.7GW of solar could be deployed by 2030 with an annual support equivalent to a 1% increase in domestic electricity bills;
- Solar industry will support around 2bn of gross value added in Ireland between 2017 and 2030; and around 1bn in direct taxes;
- The solar industry will support up to 7,300 jobs per year over the same period.

In April 2017, the SEAI (Sustainable Energy Authority of Ireland) published a report entitled *Ireland's Solar Value Chain Opportunity*[2] . Ireland's value chain strengths and opportunities are in:

- Research and development;
- Building materials
- Systems integration and optimisation;
- ICT systems and analytics;
- Process engineering;
- High value manufacturing base and Education.

Source Lightsource Renewables

[2] https://www.seai.ie/Publications/Renewables_Publications_/Solar_Power/Solar-Chain-Opportunity-report.pdf

2. PLANNING CONSIDERATIONS

This section provides recommendations on the appropriate detail and considerations to be contained in a planning application for utility scale, ground mounted solar PV development.

Proposals for solar PV projects are unique, depending on their location, which will determine the site-specific requirements for a planning application. Table 2-1 below summarises the process when applying for planning permission.

The ISEA recommends that applicants engage early with local authorities and communities alike to ensure that planning applications are complete, inclusive and of the necessary standard.

The ISEA encourages local authorities to consider how solar PV developments can contribute to their renewable energy targets, where such development is suitable, and how the community can benefit. In November 2016, ISEA submitted a comprehensive report to Government with recommendations for both community benefit and community shared ownership. The ISEA also encourages local authorities to include policy supporting solar PV when reviewing development plans.

2.1. Planning Application Information Requirements

Table 2-1 below sets out a summary of the information relevant to the planning process

Table 2.1 Information Requirements

Statutory Requirements	• Applications should be submitted in accordance with Part 4, Articles 17-24 of the Planning and Development Regulations, 2001-2015. • Appropriate Assessment (Stage 1 and/or Stage 2 where applicable)3
ISEA Recommended Additional Requirements	• Pre-planning Meeting • Public Consultation Report/Record • EIA Screening • Ecology Appraisal • Archaeology Appraisal • Traffic and Transport Appraisal • Landscape and Visual Appraisal • Hydrology Appraisal
Site Specific or Specialist Requirements	• Glint & Glare Appraisal • Flood Risk Assessment • Outline Traffic Management Plan • Outline Construction Environmental Management Plan (CEMP) • Biodiversity Management Plan • Public Consultation • Noise Appraisal • Socio-Economic Appraisal

[3] If more than 15km from a Natura site an Appropriate Assessment may not be required.

2.1.1. Statutory Requirements

Failure to meet the statutory requirements when submitting a planning application will result in the application being invalidated. In addition to meeting specific planning requirements, there are also considerations relating to environmental legislation which is incorporated into the Planning and Development Act, 2000 as amended. In particular:

Appropriate Assessment: A screening for Appropriate Assessment must be carried out to determine if, in view of best scientific knowledge, the proposed development, individually or in combination with other plans or projects, is likely to have a significant effect (s) on any European sites that have been designated by the EU in Article 6 (3) of the Habitats Directive (92/43/EEC) as a Special Area of Conservation (SAC), or the EU Birds Directive (79/409/EEC as amended 2009/147/EC) as a Special Protection Area (SPA).

In many cases a standard 15-km distance from a proposed site is used as a potential zone of influence within which Natura 2000 sites should be screened for potential impact. However, in reality, potential impact on sites is dependent on the nature of the impact, sensitivity of receptors and causal links and conduits rather than distance. In many cases the potential zone of influence is considerably less than 15km (for example, noise and airborne pollution) while the potential zone of influence could be greater than 15km, for example, if there is a direct water connection.

For the purposes of an initial look at the zone of influence, and to incorporate the precautionary principle, a 15-km potential zone of influence should be taken as a minimum for all Natura 2000 sites (DoEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities.). However, the Natura 2000 sites which may be impacted by a proposed solar farm and/or the indicative grid connection route should be limited to those sites which have some ecological or hydrological connection to such works. Therefore, Natura 2000 sites with ecological and/or hydrological connections to a proposed solar farm and/or the indicative grid connection routes should be identified and the potential impact on these Natura 2000 sites be assessed.

2.1.2. ISEA Recommended Additional Requirements

Pre-Planning Meeting: It is recommended that a pre-planning meeting is sought with all local authorities prior to advancing a planning application as the Local Authority will assist and confirm the level of information necessary to accompany and support the planning application in its jurisdiction.

EIA Screening: While it is acknowledged that solar development does not fall into any category or class of development outlined in Schedule 5 of the Planning and Development Regulations, 2001-2015 (as amended), and having regard to the criteria set out in Schedule 7 of the Regulations, it is recommended that all projects should undergo EIA screening as the development may or may not have a significant effect on the environment, depending on capacity thresholds and site-specific considerations. Further detail on this is contained in Appendix I - Environmental Considerations.

Ecology Appraisal: The nature of potential impact on ecology will depend on the ecological characteristics and features of the site and its sensitivity to the proposed changes. The vast majority of large-scale solar PV projects are sited on agricultural land which is homogenous in nature and has low or limited ecological value. In most cases a well-designed solar project will enhance biodiversity on site. Nonetheless, it will be important to consider potential impact arising from the construction, operation and decommissioning stages of a development.

Archaeology Appraisal: This includes a high-level appraisal of the potential impact of the proposed development on the surrounding archaeological, architectural and cultural heritage landscape. There is a small percentage of ground disturbance that is predicted to occur during the construction phase of a solar development. An internal guidance document on solar farm developments was issued by the National Monuments Service (NMS) in November 2016 which details the requirements for an Archaeological Impact Statement.

Source Lightsource Renewables

Traffic & Transport Appraisal: An appraisal of the existing road network and the potential impact of the proposed development, including traffic numbers and movements during the construction, operational and decommissioning phases should be carried out. Evidence of appropriate sight lines at the entrance to the development from the public road lines should also be provided.

Landscape and Visual Appraisal:
An appraisal of the existing road network and the potential impact of the proposed development, including traffic numbers and movements during the construction, operational and decommissioning phases should be carried out. Evidence of appropriate sight lines at the entrance to the development from the public road lines should also be provided.

a) The landscape character fabric, and landscape designations of the relevant development plans;
b) Adjacent visual receptors including sensitive views, recreational greenways and amenities, transport, residential and heritage/cultural receptors in accordance with those detailed in the development plan for the area;
c) The degree of containment of the existing site along with an examination of how the proposed development may be integrated into the established visual baseline and landscape character;
d) The significance of and the effect of the change resulting from the proposed development, on views and visual amenity within the public realm;
e) The potential impact on the surrounding landscape including an appraisal of possible impact on the landscape character of same;
f) The development should be assessed for cumulative impact.

The proposal will need to have regard in both its design layout, and future maintenance plans for the retention and growth of vegetation on the project's boundaries.

Source Solar PV Ireland

Hydrology Appraisal: This section of the application should examine the existing drainage pattern of the site of the proposed development and a preliminary drainage design should be developed and included with the application. A summary of the potential impact on the receiving waters downstream of the proposed development should also be provided. Given the non-obtrusive nature of the construction methods, it is not expected that the construction of the solar farm will result in a significant increase in flooding or contamination in downstream watercourses.

Record of Consultation: It is recommended that a summary of the engagement and consultations is provided in the application, highlighting the items raised and how these were addressed.

2.1.3. Site Specific Information

Glint and Glare Report: As solar PV is specifically designed to absorb light rather than reflect it, glint and glare is therefore a relatively rare issue and is site specific. Glare is significantly less intense than glint. In the case of PV arrays, glint and glare are minimal. PV modules are found to reflect the same amount of sunlight, similar to or less than water bodies, which is less than other materials that make up the built environment, such as aluminium (and other metals), concrete and even vegetation. Internationally, solar arrays have been installed at or near airports such as Singapore's Changi Airport, London's Gatwick Airport, California's San Jose Airport, Germany's Dusseldorf, Belin and Munich Airports and more recently, at Belfast International Airport, demonstrating that, with good design, glint and glare is not an issue for sensitive receptors.

A glint and glare study will determine which receptors (such as dwellings, roads, rail lines and airports) have the potential to experience the effects of glint and glare. It then examines, using a computer generated geometric model, the times of the year and the times of the day such effects could occur and indicates mitigation measures to reduce or eliminate the potential impact. The geometric model is based on the relative angles between the sun, the panels and the receptor throughout the year. It is unlikely that a glint and glare assessment would be required for all applications.

Flood Risk Assessment: A stage 1 flood risk assessment should be carried out if a project is being proposed in a flood zone. Most projects can be designed to accommodate flood events, i.e., by raising the height of the panels, and locating key infrastructure such as substations on an area of the site outside of the flood zone or alternatively, by raising the substation.

Outline Traffic Management Plan: In addition to the Traffic & Transport Appraisal, certain developments may necessitate the development of an Outline Traffic Management Plan for their development. This should address construction traffic volumes, potential haul routes, phasing of the development and emergency access. Generally, the construction traffic on a solar site is expected to be relatively light with little heavy machinery required. During operation, the site traffic is minimal.

Outline Construction Environmental Management Plan (CEMP): The outline CEMP should set out the key environmental management controls, such as setbacks from water courses/drains, waste management etc., for the construction, operation and decommissioning phases of the proposed development to ensure that during these phases of the development the environment is protected and impact is minimised.

Biodiversity Management Plan (BMP): On a proposed site where a significant level of impact is predicted a BMP may be used to mitigate against the predicted impact. Solar farms can present an excellent opportunity for increasing an area's biodiversity at the local level. A number of options exist for enhancing biodiversity on solar farms, from hedgerows to field margins to wild flower meadows to bird boxes, insect hotels, enhancement for bees and ponds.

Public Consultation: A considered approach to community engagement is important. The publication of the White Paper Ireland's Transition to a Low Carbon Energy Future (2015-2030) puts the 'citizen' at the centre of Ireland's energy transition. The model of community engagement that is chosen should take into consideration local circumstances. The consultation process may take different forms such as one-to-one engagement with local residents, local media notices, distribution of information leaflets in the area, public open evenings etc. The planning application should make reference to any representations received and how the planning application was influenced or amended to accord with such representations.

Noise: The static nature of the proposed solar photovoltaic arrays means that there will be no mechanical movement of the solar array. As such, there are no predicted noise emissions from the solar panels. The inverter units are fitted with cooling fans that generate a small amount of noise when the solar farm is operational, but these will not be audible from adjacent receptors.

Source Activ8_Ground-Mount

As solar farms only operate during daylight hours, there will be no operational noise generated at all in the evening, night or early morning (when ambient noise levels are typically lowest). There is low level noise associated with the transformers in the on-site electricity cabinets. Transformers should not be located adjacent to receptors and therefore, will not be audible from these receptors. Should any of these conditions change an appraisal of the noise at the operational stage should be carried out.

Potential noise impact from construction is determined with reference to British Standard 5228:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1 Noise.

Socio-Economic Impact: The socio-economic benefits of the development should detail job potential during the construction, operational and decommissioning phases. Other benefits include reduction in CO2 and methane emissions, thereby reducing the impact of global warming and less dependency on foreign energy supply.

2.2. Agricultural Considerations

There is no Irish national planning policy that specifically excludes development on agricultural land. The overarching objective of planning legislation is to seek to ensure, in the interests of the common good, the proper planning and sustainable development of both urban and rural areas.

Specific land use zoning objectives are not specified for the majority of rural areas in Ireland. However, policies contained within County Development Plans and Renewable Energy Strategies (where they exist) do guide development within rural areas.

As such, determination of land suitability is based on visual assessments and performance of arable or grazing yields by farmers who own or lease lands. In all cases, the social, economic and environmental merits of farm diversification should be explored to inform the planning policy justification for development.

In many cases the dual use of the land can be considered. In particular, some solar sites may be suitable for grazing sheep and this has proven to be a successful tried and tested dual use of the land for agriculture.

2.3. Duration of Planning Permission

Due to commercial, economic or technical considerations beyond the control of the applicant such as a delay in obtaining grid connections or changes in technology, an Applicant should request and give reasons for requesting a 10-year planning permission.

Solar PV farms should normally be regarded as a temporary use of land. The expected physical lifetime of the solar panels is approximately 30 years. Applicants should request a grant of permission on the basis of a 30-35 year operational period from the date of commissioning of the solar farm.

Source Lightsource Renewables

3. SOLAR PV DESIGN CONSIDERATIONS

The location of utility scale ground mounted solar PV projects will ultimately be determined by the solar resource of the specific site, suitable grid/private wire connection options, and then suitable site selection criteria thereafter. Sites for ground mounted installations should aim to minimise landscape and visual impact where possible and integrate with or take advantage of screening opportunities from any existing natural features. The most technically viable sites are predominately flat or south facing, and can be designed such that the panels themselves are not immediately adjacent to features which could potentially cause shadowing, e.g., vegetation and buildings.

A 5MW development will require approximately 25 acres of land. Most projects in the Irish planning system are between 5MW and 30MW. The infrastructure typically disturbs less than 5% of the ground. The posts upon which the panels are mounted take up less than 1% of the land area. Normally 35%-45% of the field surface is oversailed by panels. As the panels are above ground on posts, more than 95% of a field used for solar farm development remains accessible for continued grazing by small livestock.

3.1. Typical Solar Development Infrastructure

Key design features include the type of PV module, mounting and tracking systems, inverters, and module arrangement.

- **Inverters:** These are required to convert the DC electricity to alternating current (AC) for connection to the utility grid. Many modules in series strings and parallel strings are connected to the inverters. Inverters come in two types: central or string. Central are typically the foot print of a 20ft container, while string inverters are mounted underneath the array of modules.
- **Module mounting (or tracking) systems:** These allow PV modules to be securely attached to the ground at a fixed tilt angle, or on sun-tracking frames. The use of tracking systems in Ireland is highly unlikely and it is expected that all projects will be fixed title with no moving parts.
- **Step-up transformers:** The output from the inverters generally requires a further step-up in voltage to reach the AC grid voltage level. The step-up transformer takes the output from the inverters to the required grid voltage (for example 25kV, 33kV, 38kV, or 110kV, depending on the grid connection point and country standards).
- **The grid connection interface:** This is where the electricity is exported into the grid network. The substation will also have the required grid interface switchgear such as circuit breakers (CBs) and disconnects for protection and isolation of the PV power plant, as well as metering equipment. The substation and metering point are often external to the PV power plant boundary and are typically located on the network operator's property.

Other design features include access tracks, underground cabling, perimeter fencing, CCTV, access gates, temporary construction compound, spare parts container and weather station.

3.2. Pre-Application Considerations

At the pre-application stage, the developer should consider the pertinent factors outlined below that will determine whether a solar PV installation will be feasible at a given location.

3.3. Site Feasibility

The site feasibility study will be determined by site selection criteria, which may typically include the following:

- **Solar resource assessments:** An initial solar resource assessment should be carried out to determine if the site is commercially viable;
- **Grid connection opportunity:** A suitable grid connection node should be identified within reasonable proximity of the site to ensure viability;
- **Land orientation and topography:** In order to maximise the collection of solar radiation, solar farms generally require flat, south facing land unimpeded by aspects that may cause shadowing;.

- **Suitable ground conditions:** Suitable ground conditions must be available in order to facilitate the development of solar farms with friction or screw piles. As such, sand or rock strata are generally unsuitable;
- **Landholding Size:** A landholding of approximately 25 acres is required for a 5MW project.

Source Dulas

3.4. Site Specific Considerations

Once the above site selection criteria have been applied to a site, the next set of criteria that determine feasibility of a site include the following:

- **County Development Plans:** County Development Plans and Local Area Plans should be reviewed to identify any sensitive areas or specific land use restrictions. A review of any specific policy in relation to solar should also be conducted;
- **Landscape/ Visual Impact:** The landscape and visual impacts of a site should be minimised where possible. On flat land existing mature hedgerow screening can significantly assist in minimising the visual impact of the development.
- **Conservation Designations:** At an early stage, it should be established whether the proposed site is designated as a European Natura 2000 Site i.e., Special Area of Conservation (SAC), Special Protection Area (SPA) or proposed Natural Heritage Area (pNHA).
- **Cultural Heritage:** Solar projects may impact directly or indirectly on scheduled monuments or protected structures and unknown archaeology. Set back distances should be considered as a site constraint if any monument is located on the site.
- **Flood Risk:** The flood risk of the proposed area has to be established. While solar farms are and can be built in areas of flood risk, design consideration may be required on the construction of solar panel arrays above predicted flood levels within a site and the supporting structures placed so as to avoid impeding the conveyance of floodwaters or result in the displacement of floodwaters.
- **Residential Dwelling Proximity:** Solar projects should consider the amenities of nearby residential dwellings, and ensure that solar infrastructure will not have an undue effect on these. It is possible for solar developments to exist in close proximity to residential properties; however, they should not have significant adverse impact.
- **Adjacent Road Network & Site Access:** The ease of haulage of materials to the site should be considered at an early stage. Access from the public road to the proposed development site should also be considered.
- **Community Gain:** Opportunities for community benefit should be explored where practical and be based on input from the local community.

3.5. Decommissioning

At the end of the operational period the structures, including all ancillary equipment and cabling, should be carefully dismantled and removed from the site. Materials that can be reused should be sent to an appropriate location for recovery or disposal via a permitted waste contractor. The site should be restored to its original use or in accordance to any specific planning conditions. Analysis has shown that the cost of decommissioning a PV site is considerably less than the scrap value of the materials and therefore there should not be a requirement for a decommissioning bond. PV plants can be easily and economically decommissioned with the site returning to its original condition.

Source Lightsource Renewables

Appendix I – Environmental Considerations

Environmental Impact Assessment (EIA) and Screening

European EIA Directive

The European EIA Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment was amended in April 2014 by Directive 2014/52/EU. The revised EIA directive requires that, "in order to ensure a high level of protection of the environment and human health, screening procedures and EIA assessments should take account of the impact of the whole project in question, including where relevant, its subsurface and underground, during the construction, operational and, where relevant demolition phases".
The new EIA directive 2014/52/EU must be adopted in full before May 2017 and it should be noted that the types of projects listed in Annexes I and II remain unchanged.

Irish EIA Statutes

EIA requirements in Ireland are mainly enacted via the P&D Regulations, 2001- 2015 (primarily S.I. No 600 of 2001, S.I. No. 454 of 2011, and S.I. No. 419 of 2012). Part X of the P&D Regulations sets out the procedures and requirements for EIAs, and Schedule 5 (i) provides a comprehensive list of project types for which EIAs are mandatory. Schedule 5 (ii) projects should undergo EIA screening as the developments may or may not have a significant effect on the environment, depending on capacity thresholds and site-specific considerations.

Utility scale ground mounted solar PV projects are not expressly listed in either Schedule 5(i) or 5(ii) of the P&D Regulations.

EIA Screening

EIA screening is recommended, even if the solar PV development is not included in the projects or thresholds set out in the P&D Regulations or the EU (Agriculture) Regulations, if the development is seen as notifiable action affecting an SAC, SPA, pNHA or recorded monument, or may have a significant effect on the environment. This includes the preparation of an EIS screening report which includes sufficient information on the criteria set out in Schedule 7 of the Planning and Development Regulations, 2001 – 2015 to allow the competent authority (i.e. the planning authority) to determine if an EIS should accompany a planning application.

The EPA 2015 Revised Guidelines on Information to be contained in EIS notes that even where a proposed project is not of a type that is included in the statutory EIA project list, the determination of sub-threshold EIS screening is an increasingly complex issue and should not be decided upon without full consideration of the 2014 EIA Directive's 'wide scope and broad purpose', as set out in the EU Document of Interpretation of definitions of project categories of Annex I and Annex II of the EIA Directive, 2008.

Such screening might, in particular, include situations where a cumulative effect of the solar PV development with any other existing or approved developments must be considered, or if more than one application for solar PV development is submitted for an environmentally designated area.

In each case it will be necessary to assess whether the likely effects on the environment of the solar PV development will be significant in that location. Particular attention must be given to the visual impact of the development on landscape character.

During the process of EIA screening, where appropriate views expressed by stakeholders or consultees should be taken into account, advice should be sought from consultees where there is any doubt about the significance of a development's likely effects on a sensitive area as defined in the EIA Regulations. The DEHLG 2003 EIA Guidance for Consent Authorities regarding sub-threshold Development (August 2003) should also be referred to in making the assessment.

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