

DRAFT KILDARE COUNTY DEVELOPMENT PLAN 2023-2029
C/O The Administrative Officer,
Forward Planning,
Áras Chill Dara,
Devoy Park,
Naas,
Co. Kildare.

Our Ref: P22-114/AR/SMC/

24th May 2022

By upload: <https://consult.kildarecoco.ie/>

Re: Draft Kildare County Development Plan 2023-2029 - Submission prepared on behalf of Harmony Solar Ireland Limited in respect of the Draft Kildare County Development Plan 2023-2029

A Chara,

Fehily Timoney and Company (FT) has been retained by Harmony Solar Ireland Limited (Harmony Solar), of Ballyseskin House, Kilmore, Co. Wexford to make a submission on the Draft Kildare County Development Plan 2023-2029, which focuses on the contents of *Chapter 7: Energy and Communications, Section 7.6* and *Chapter 15: Development Management Standards, Section 15.11.2*. Harmony Solar welcomes the opportunity to make a submission on the second stage of the Development Plan process for drafting the Kildare County Development Plan 2023-2029.

Harmony Solar are a Wexford based developer and provider of renewable solar energy solutions. As a company Harmony Solar operate nationally. Harmony Solar have a strong commitment to building a responsible and sustainable solar energy industry, being active members of the Irish Solar Energy Association (ISEA) and having contributed to the publication of the Planning Guidelines by ISEA.

As a company, Harmony Solar has been successful in achieving planning permission for utility scale solar farms at a number of sites across Ireland. Harmony Solar are currently looking at a number of sites across County Kildare with the intent to develop utility scale solar developments. Harmony Solar intend to continue to deliver projects of a similar nature over the lifetime of the forthcoming Development Plan, with plans for additional renewable energy solar development in Kildare being advanced.

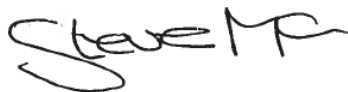
Cont'd

Harmony Solar strongly believes in engagement and partnerships with both local authorities and communities and hopes that the upcoming Kildare County Development Plan 2023-2029 will encourage community involvement as part of the renewable energy policy objectives for the county as a whole.

Planning plays a fundamental role in helping shape places to secure radical reductions in greenhouse gas emissions, providing resilience to the impacts of climate change and supporting the delivery of renewable and low carbon energy and associated infrastructure. It is therefore incumbent on Kildare County Council to set out robust policy objectives as part of their development plan to support the transition to a low carbon future through the continued development of a solar PV sector in County Kildare.

We hope Kildare County Council will consider this submission in finalising the new Development Plan and Harmony Solar looks forward to positive engagement with the Council as well as local communities in the development of solar energy in county Kildare.

Yours faithfully,



Steve McCarthy (Agent)

for and on behalf of **Fehily Timoney and Company**

Harmony Solar Ireland Limited. Submission to Draft Kildare County Development Plan 2023-2029

1. Introduction

Harmony Solar welcome the opportunity to engage as part of the Development Plan process and commends Kildare County Council for the inclusion of a comprehensive and detailed suite of Policy Objectives set out in *Chapter 7: Energy and Communications, Section 7.6* and *Chapter 15: Development Management Standards, Section 15.11.2* within the Draft Kildare Development Plan 2023-2029.

The Kildare County Development Plan is the primary document for spatial planning policy at county and local level and provides the basis in assessing planning proposals against. The Planning Authority through the Development Plan plays a key role in helping shape places to aid in reducing greenhouse gas emissions, to provide resilience to the impacts of climate change, and in supporting the delivery of renewable energy and low carbon and associated infrastructure. For this to be achievable, a collaborative approach is required between the planning authority, developers, other key agencies and the wider community.

The development of solar as a renewable energy source can make a significant contribution in the immediate term to meeting legally binding renewable energy targets and avoiding the significant costs associated with missing these targets. A robust solar industry in Ireland will assist in security of energy supply, diversify the fuel mix, contribute to job creation and rural development. To do so it is incumbent on Kildare County Council, and indeed all Planning Authorities to establish the spatial planning framework in the Development Plan that provides clear, balanced policy direction that supports the transition to a low carbon environment for the benefit of the community more broadly.

In this submission, we consider the national and international policy and economic background to Solar development, as well as the content of Chapter 7: Energy and Communications and Chapter 15: Development Management Standards within the Draft Kildare Development Plan 2023-2029. From the outset, it is important to acknowledge that from a spatial planning perspective, utility scale solar development has few environmental impacts, it is not representative of an *intensive* form of development but rather is an *extensive* form of development. Thus, a 35MW solar farm typically requires c. 50-70-hectares of land. Suitable land banks for solar energy are typically found in rural areas. However, when the national land bank is considered, this land requirement does not compete with or diminish Ireland's agricultural potential.

Construction activities for solar farms do need to be carefully managed, but these are temporary and once permitted, solar farms can be deployed rapidly and are generally operational in approximately 4 to 6 months, following the start of construction. The low profile of solar development and common retention of existing hedgerows and tree lines result in limited visual and landscape impact, and even large-scale solar schemes can seamlessly integrate with the landscape and simply form part of the mixed tapestry of rural land uses. In respect of biodiversity and ecology,

solar development can often have a positive impact in rural areas especially when compared to intensive agricultural activities.

In this submission, we make a number of specific recommendations in respect of the contents of Chapter 7: Energy and Communications (Section 7.6 - Solar Energy) and Chapter 15: Development Management Standards (Section 15.11.2 – Applications Proximate to Overhead Lines) which will be listed below, and our reasons, arguments and considerations for these are set out in the main body of the submission.

2. Harmony Solar Ireland Limited

Harmony Solar Ireland Limited are an independent renewable energy developer with a registered address at Ballyseskin House, Kilmore, Co. Wexford. The company's management has extensive experience in responsible development and management of renewable energy projects across Ireland.

Harmony Solar has been successful in achieving planning permission for utility scale solar farms at a number of locations within County Kildare and hope to continue to deliver projects of a similar nature over the lifetime of the forthcoming Development Plan, with plans for additional development in Kildare being advanced.

3. National and International Policy Background

In the context of renewable energy developments within the Kildare Development Plan, it is necessary that national and international policies are firmly reflected in specific policies and objectives. As outlined in the Climate Action Plan (2021), the Government is targeting net zero greenhouse gas emissions by 2050.

Moreover, the National Planning Framework further promotes renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050. For this to be achieved, there is an overarching requirement for investment in new energy systems and transmission grids to ensure a well distributed energy system.

Kildare County Council will be familiar with the national and international policy for renewable energy development, nonetheless it is important in the context of the Kildare Development Plan that the foundation for local policy is firmly stated and reflected in specific policy objectives.

In December 2015, the Paris climate conference (COP21) the first ever universal legally binding global climate change deal was agreed.

It is now globally recognised that the window for action on climate change is rapidly closing and that renewable energy sources will have to grow from 30% of global electricity at present to 80% by 2050 if we are to limit global warming to below 2 degrees¹. The European Commission's adoption of the 'Energy Roadmap 2050' which looks beyond the 2050 targets, commits the EU to reducing greenhouse gas emissions to 80-95% below 1990 levels by 2050 effectively meaning that Europe's energy production will have to be almost carbon-free by 2050.

On May 18th 2022 the EU Commission published the REPowerEU package which aims to rapidly transform Europe's energy system and end the EU's dependence on Russian fossil fuels. The REPowerEU package seeks to scale up and speed up the delivery of renewable energy power generation. The Commission proposes to increase the headline 2030 target for renewables from 20% to 45%. The package seeks to set up a dedicated 'EU Solar Strategy' to double solar PV capacity by 2025 and install 600 Gigawatts (GW) by 2030

At a national level, the key driver on policy is the Climate Action Plan 2021 (CAP 21). The CAP 2021 includes a target to increase electricity generation from renewable sources to 80% by 2030. To achieve 80% renewable electricity production by 2030, substantial new generating and transmission grid capacity will be required.

The CAP sets out targets as follows which rely heavily on both solar and wind energy technology:

- Reduce CO₂ eq. emissions from the sector by 50–55% relative to 2030 NDP projections;
- Deliver an early and complete phase-out of coal- and peat-fired electricity generation;
- Increase electricity generated from renewable sources to 80%, indicatively comprised of:
 - at least 5 GW of offshore renewable energy
 - 1.5 – 2.5 GW of grid-scale solar energy
 - up to 8 GW total of increased onshore wind capacity

A 'business as usual' model is not sustainable for Ireland and measures to decarbonise the energy sector are urgently needed; planning authorities, through their development plans, have a key role and responsibility to ensure actions are rolled out at local levels. Solar PV is a key technology that can assist with the State's transition to a low carbon society. The large-scale development of solar PV would lower GHG emissions from the energy system while still satisfying the demand for energy services.

Having regard to the foregoing, with the Kildare Development Plan 2023-2029, a new, strengthened phase of development support is required to provide effective solutions to our low carbon transition for business and citizens. Within the electricity generation sector, solar PV is proven to deliver one of the most cost-effective renewable electricity sources worldwide. This point has been acknowledged by the European Commission in the European Commission Publication '*A policy framework for climate and energy in the period from 2020 to 2030*'.

County Kildare has sufficient radiant solar energy and is endowed with good connections to the national grid. In this regard, the preparation of a dedicated Renewable Energy Strategy for the County over the lifetime of the forthcoming Kildare Development Plan 2023-2029 is welcomed by

¹ IPCC Fifth Assessment Synthesis Report, Intergovernmental Panel on Climate Change AR5 report

our client, Harmony Solar, and we further encourage Kildare County Council to embrace the opportunity solar energy has for the county to become a lead alternative energy generator, assist in the national response to climate change and provide alternative income sources to rural areas of the county.

Whilst the afore-mentioned renewable energy target of 80% to 2030 is demanding, it is achievable, but to reach it, efforts and investment must be focused and diverse. Planning policy should thus be directed toward making best use of our most available and cheapest natural resources.

In the following sections of this submission, we make a number of specific recommendations in respect of the above section for inclusion in the Kildare County Development Plan 2023-2029.

The Kildare County Development Plan will play a critical role in assisting the delivery of renewable energy technologies and we welcome the fact that solar PV is specifically referenced in the Draft Development Plan 2023-2029. Notwithstanding this, we consider that more explicit reference should be made to solar PV in the upcoming Development Plan to enable Kildare to achieve its potential as a key contributor to Ireland's low carbon economy and achieving national energy targets. A significant step for this is setting out a clear detailed policy vision for supporting solar energy in the Kildare County Development Plan 2023-2029.

Kildare County Development Plan (2023-2029)

Recommendation 1:

Harmony solar request that the Kildare County Development Plan elaborates further on National and International policy for climate change and provision of renewable energy and that the plan includes a firm policy framework that supports renewable energy proposals and recognises the specific development requirements to facilitate large, grid scale renewable energy projects at suitable locations in the county.

4. Draft Kildare County Development Plan 2023-2029, Chapter 7: Energy and Communications (Section 7.6) and Chapter 15: Development Management Standards (Section 15.11.2)

Climate change continues to be one of the most serious global environmental challenges. Low-carbon, renewable electricity production is one of the most cost-effective methods of reducing greenhouse gasses across the Energy sector as well as providing a means to manage climate change. As stated within the Draft Kildare County Development Plan, there is a pressing need for a move from traditional energy generation methods based on the burning of carbon-based fossil fuels, towards a more sustainable, low carbon-based energy generation and overall economy through

renewable energy technologies. The Draft Kildare County Development Plan 2023-2029 illustrates Development Plan Principles and Policy Objectives which incorporate Sustainability, Climate Action, Social Inclusion and Resilience in relation to solar farm development in County Kildare.

In this context, it is evident that there is a strong support at all policy levels for the development of renewable sources of energy. Renewable energy sources, such as that from utility scale solar developments, offers sustainable alternatives to our dependency on fossil fuels, thereby acting as a means of reducing harmful greenhouse emissions and enhancing opportunities to reduce our reliance on imported fuel sources.

A secure, sustainable, and competitive energy sector is central to Ireland's economic growth both in terms of the State's ability to attract and retain Foreign Direct Investment and sustain Irish enterprise. Solar photovoltaics (PV) is one of the fastest-growing sources of electricity globally, with emerging trends in the renewable energy market identifying solar energy as making a notable contribution to Ireland's renewable energy targets. One of the key driving forces for the increased scale of solar proposals in more recent years is the significant costs associated with installing solar panels and of costs payable by developers for ESB/Eirgrid Substation upgrades and line connections required to make a connection to the national grid. It is therefore imperative for the Planning Authority to understand and appreciate that to fulfil its role in providing affordable renewable energy to the Irish electricity market that the scale of individual development proposals is being determined by the requirement to maximise use of existing electrical infrastructure and gain economies of scale by developing utility scale solar developments which will likely be at least 10MW or greater.

The continued development of the solar industry in Ireland would result in significant new sources of jobs in rural areas, in fact, The Irish Solar Energy Association estimates that 3.5 jobs are created per MW for a solar project². Thus, the further development of solar PV will provide rural host communities with a range of benefits, including:

- New revenue sources – landowners would generate an additional and stable income source through diversification of their existing business by integrating energy production into their core business.
- Once in place, solar farms allow agricultural activities to continue and give the site a dual usage alongside the generation of renewable electricity. Typically, only 2% - 5% of grass sward is removed. Wide field margins, gaps between the rows of panels and area beneath the panels allow small livestock, such as sheep or chickens, to graze on the solar farm.
- Creation of valuable job opportunities for people in areas where there are otherwise limited employment opportunities. Direct jobs in construction and O&M and indirect jobs arising along the RE supply chain (manufacturing, specialised services) and by adapting existing expertise to the needs of the solar industry.

Noting the above, it is considered that the development of a significant quantum of solar PV in Ireland would realise substantial direct and in-direct employment opportunities, many of which

² <https://www.energyireland.ie/putting-solar-pv-in-the-mix/>

would be in rural locations which have limited alternative employment opportunities outside agriculture.

In this regard, the forthcoming Kildare County Development Plan is an opportunity to contribute to effective regional development, to enhance the rural employment base and increase the resilience of rural areas.

Section 7.6 of the Draft Kildare County Development Plan 2023-2029 refers specifically to Solar Energy and outlines the “*best locations*” for ground mounted commercial PV array installations.

The Draft Plan sets out several items which the Council will consider in assessing renewable energy development proposals upon the landscape and impacts during the decommissioning and potential repowering stages of any solar farm development.

In the following sections of this submission, we make several specific recommendations in respect of the above section for inclusion in the Kildare County Development Plan 2023-2029.

Kildare County Development Plan (2023-2029)

Recommendation 2:

Harmony solar is supportive of the principles in respect of Solar Energy and requests that the Kildare County Development Plan (2023-2029) inserts the following text in **green** to **Objective EC 017**

“Support the building of integrated and commercial-scale solar projects at appropriate locations subject to a viability assessment and environmental safeguards including the protection of natural or built heritage features, biodiversity and views and prospects. The Council supports the development of utility scale solar PV development at suitable locations where there is no detrimental impact on such environmental safeguards”

It is also considered that the potential economic and employment opportunities that development of solar PV development can bring to local economies should be highlighted in upcoming development plan.

4.1 Generation Capacity

With regards to Section 7.6 ‘*Energy and Communications*’ an indication of the items that are required as part of applications for ‘*Solar Energy Developments*’ are provided. This is inclusive of the following:

- *All applications should indicate the estimated megawatt output of the proposed solar farm*

It is not possible to be precise on the generation capacity/Megawatts (MW) output of a proposed solar development at application stage as there are a number of factors which will govern the final energy output of such facilities, this includes;

- The *Commission for Regulation of Utilities (CRU)* have determined that in order to make an application for connection to the national grid under the *Enduring Connection Process (ECP)*, a prospective applicant must firstly have been granted planning permission. When an application is accepted, EIRGRID or ESNB, who assess the application, are consulted by the applicant through the EPC process to determine the quantum of energy to be permitted based on available infrastructure and grid capacity requirements. This process is undertaken following a consent of permission being issued by the relevant authority, and the permissible MW output will thus be finalised after a connection agreement under ECP has been completed.
- Solar Panels generate energy as Direct Current (DC) which is inverted to Alternating Current (AC) and voltages are stepped up in accordance with requirements and efficient management of the system prior to final output to the national grid. These processes can result in various losses of energy. Technology associated with electrical infrastructure and management energy from solar farms is developing rapidly with ongoing efficiencies in loss management being achieved. Prior to installation, the electrical design will determine the most cost-efficient energy management system for the solar farm, and thus determine what will be the MW output from the facility.
- Solar Panel technology is also developing rapidly with more efficient conversion of sunlight to electrical energy being continuously developed. Prior to construction and installation and in tandem with the electrical design, final decisions on choice of panel are made to ensure the permitted solar panel area, as indicated in the development description, will be efficiently utilised. This in turn will also affect the final MW output.

The planning authority should note the final electrical design and panel choice should be within the scope of any such planning permission, if granted. However, if the applicant has requested that a duration of permission for 10 years is granted, clearly within this timeframe, or indeed within a shorter timeframe, it is reasonable to expect significant advances in solar panels and electrical infrastructure

As indicated for the reasons outlined above, it is not possible to state the final generation capacity/Megawatts output of proposed solar farm developments at planning application stage. However, the generation capacity will be known to the developer prior to construction.

As the generation capacity/Megawatts output specific to solar farm developments cannot be precisely determined at application stage, we respectfully request, that if such schemes obtain a grant of permission, the planning authority include a planning condition which requires the developer to submit and agree the final generation capacity in writing with the planning authority prior to commencement of the development for the purposes of calculating the development contribution.

We would like to emphasise that Harmony Solar, wishes to convey their willingness to meet their statutory obligations in respect of development contributions, but as outlined, it will be important for all parties that full clarity on the exact payment required is achieved and this cannot be provided until after both a grid connection is agreed with EIRGRID or ESNB. The accepted Grid Offer from either EirGrid or ESNB will provide the necessary evidence of the generation capacity.

Kildare County Development Plan (2023-2029) – ‘Energy and Communications’- Generation Capacity

Recommendation 3:

Harmony Solar request that Kildare County Council acknowledge that it is not possible to be precise on the generation capacity of a proposed solar farm at application stage as there are a number of factors which will govern the final energy output of such facilities. In this regard, we respectfully request that the planning authority amend Section 7.6 ‘Energy and Communications’ and omit the following wording:

- ~~“All applications should indicate the estimated megawatt output of the proposed solar farm”~~

Instead we request that the Planning Authority attach a planning condition which requires the developer to submit, and agree the final generation capacity in writing with the planning authority prior to the commencement of development.

4.2 Biodiversity

Biodiversity enhancement in the form of on-going management of existing internal and perimeter hedgerows and grass land management is a key consideration as part of any application for solar PV development. The ‘Biodiversity’ heading included as part of Section 7.6 ‘Solar Energy Developments’ encourages:

“The retention of hedgerows and other existing areas of biodiversity value, a minimum of 10% of each overall solar farm site shall be reserved for biodiversity purposes, including planting of native and pollinator-friendly species or the construction of new wetland habitat.”

Harmony Solar are supportive of this approach and consider that any proposed solar farm developments should allow for ecological restoration and agricultural uses in and around solar arrays where appropriate.

Moreover, we consider that the quantity of a 10% figure should be reviewed on a site by site basis, with specific consideration given to site conditions and landscape attributes. A solar farm developer

leases the lands from the landowner/farmer with an objective to return these lands to the landowner/farmer after the decommissioning of the solar farm. Having 10% of the site dedicated to biodiversity purposes would remove potentially viable agricultural land from future agricultural use upon decommissioning of solar PV developments.

A balance needs to be maintained where renewable energy is provided on site while maintaining and supporting the continuation of agricultural practices on site during the duration of the development. It is requested that the Council should confirm that if a quantity of 10% is applied that it is applied to the overall site area.

Kildare County Development Plan (2023-2029) – ‘Solar Energy Development’

Recommendation 4:

Harmony solar requests that Kildare County Council provide clarity in respect of the suggested 10% requirement reserved for biodiversity purposes, including planting of native and pollinator-friendly species or the construction of new wetland habitat as part of any solar development and whether this 10% relates to the overall site area or the solar development site area. This requirement is outlined in Section 7.6 of the Draft Development Plan 2023-2029 under the sub heading ‘Solar Energy Developments’

In addition, Harmony Solar requests that Kildare County Council amend this requirement to assess each application on a case by case basis given that certain landscape character types do not lend themselves to the inclusion of expansive areas of planting of native and pollinator-friendly species or the construction of new wetland habitat and recognise the potential environmental and visual impact of same and the impact of same to future agricultural practices. It is important to protect and maintain agricultural practices are maintained during the operational phase of any solar PV development.

4.3 Decommissioning

With respect to the decommissioning of solar energy developments Section 7.6 – **Objective EC 025** provides that in the assessment solar energy schemes, the Council, will require:

“A decommissioning and site rehabilitation plans (including phasing where appropriate) as part of any solar farm development application.

Notwithstanding the provisions of Section 42 of the Planning & Development Act 2000 (as amended), the Planning Authority may grant permission for more than 5 years, in appropriate circumstances.”

Harmony Solar are generally supportive of the above requirement but strongly consider that it is most appropriate for a formal decommissioning plan to be agreed closer to the decommissioning date and that a condition of planning should be attached to utility scale solar developments which states the following:

‘A decommissioning plan will be agreed with the local authority three months prior to decommissioning the Proposed Development.’

This would be in line with best practice approaches for other types of renewable energy projects.

Development associated with Solar Farms have a very low direct and indirect impact on the land where the solar farm is located. A solar farm largely consists of lightweight metal frames with solar panels affixed directly to them, with mostly underground cabling connecting them and a trackway providing access to the solar farm. In comparison to development associated with instillation of turbines for a wind farm, there is little or no heavy or largescale engineering involved in the development of most solar farms.

As such, Solar farm developments are currently being approved with a 10 year planning and 35 year operational lifespan, potentially giving the project a 45 year total lifespan before decommissioning and site rehabilitation is required. Due to this potential lifespan of a solar farm, we determine the inclusion of a ‘*decommissioning*’ and ‘*site rehabilitation plan*’ at this stage is premature, and could have an adverse impact on the operational efficiency and output of the solar farm.

An existing example which could provide guidance on ‘*decommissioning*’ and ‘*site rehabilitation plans*’ is outlined in the ‘*Scottish Natural Heritage*’ report (SNH) ‘*Research and Guidance on Restoration and Decommissioning of Onshore Wind Farms*’ (SNH, 2013). This document states that reinstatement proposals for a wind farm are made approximately 30 years in advance, so within the lifespan of the wind farm, technological advances and preferred approaches to reinstatement are likely to change. According to the SNH guidance, it is therefore:

“best practice not to limit options too far in advance of actual decommissioning but to maintain informed flexibility until close to the end-of-life of the wind farm.”

Adherence to the guidance provided by the SNH could be further enhanced by the inclusion of the ‘Circular Economy’, where consideration and comment is given to the future use and re-use of materials and equipment as part of a Solar farm design as part of the planning application.

Kildare County Development Plan (2023-2029)

Recommendation 5:

Harmony Solar are generally supportive of Kildare County Council's requirement in assessing solar energy schemes for details in respect of 'Decommissioning statement'. However it is considered that a decommissioning plan should be agreed closer to the decommissioning date. It is thus considered that the following Objective be amended in Chapter 7, Section 7.6 – **Objective EC 025:**

"Require decommissioning and site rehabilitation plans (including phasing where appropriate) as part of any solar farm development application. A decommissioning plan will be agreed with the local authority three months prior to decommissioning the Proposed Development."

Notwithstanding the provisions of Section 42 of the Planning & Development Act 2000 (as amended), the Planning Authority may grant permission for more than 5 years, in appropriate circumstances."

The above is considered to be in line with best practice approaches for alternative types of renewable energy projects and as such, we would request Kildare County Council to adopt this approach in respect of future solar PV developments.

4.4 [Development Management Standards](#)

With regard to determining solar farm applications within proximity of overhead power lines and pylons, clearance distances as recommended by the Electricity Supply Board (ESB) are outlined in Chapter 15: Development Management Standards, Section 15.11.2, 'Applications Proximate to Overhead Lines'.

The Draft Kildare County Development Plan 2023-2029 outlines clearances distances as:

- *"For development in proximity to a 10kv or a 38kv overhead line, no specific clearance is required by the ESB.*
- *For development in proximity to a 110kv overhead line, a clearance distance of 20 metres either side of the centre line or 23 metres around a pylon is recommended.*
- *For development in proximity to a 220kv overhead line, a clearance distance of 30 metres either side of the centre line or around a pylon is required."*

In reference to the above, Harmony Solar notes that:

- the preceding section, Section 15.11.1 is titled ‘Wind Energy Proposals’, and that Wind Energy projects are considerably larger than solar projects and therefore the risk of coming into contact with overhead power lines is greater. For this reason the clearance distances between solar panels and overhead power lines (as described in Section 15.11.2) is considered excessive.
- Overhead power lines at 10kV, 20kV and 38kV are managed by ESB Networks while Overhead lines at 110kV and higher are managed by Eirgrid.
- ESB Networks has produced a document ‘Interim Standard Guideline Clearances for Solar Farm to DSO Overhead Network³’
- EirGrid has produced a document ‘Transmission Line and Solar Farm Guideline Clearances⁴’ that states

“Should a Client wish to encroach within a horizontal distance of 10 metres from the outer conductor of a 110 kV distribution line, the Client should notify ESB at the earliest possible stage, i.e. pre-planning application.

Should a Client wish to encroach within a horizontal distance of 5 metres from the outer conductor of a 110 kV Distribution line, an obligation exists on the Client to notify ESB.

Solar farms located within a 50-metre radius of the centre of a 110 kV angle / tension type structure should have panels which are demountable to ground level to enable the operation of vehicular traffic in this area and the placement of temporary stays for structure support.

Solar farms should not encroach within 10 metres of a stay wire for a support structure.”

To this end, Harmony Solar requests that in preparing the Kildare Development Plan 2023-2029, the Council expand on Section 15.11.2 to specifically reference the setback distances required from Solar PV panels to overhead lines, as advised by both ESB Networks and Eirgrid. Harmony Solar request that the following be inserted.

³ Available at: https://www.esbnetworks.ie/docs/default-source/publications/interim-guideline-clearances-for-solar-farm-to-dso-overhead-network.pdf?sfvrsn=cc2101f0_0#:~:text=Solar%20farms%20should%20not%20encroach,wire%20for%20a%20support%20structure.&text=In%20accordance%20with%20the%20Code,MV%20or%20LV%20distribution%20line.

⁴ Available at: <https://www.eirgridgroup.com/site-files/library/EirGrid/8-Transmission-Line-and-Solar-Farm-Guideline-Clearances.pdf>

Kildare County Development Plan (2023-2029)

Recommendation 6:

Harmony Solar requests that the Kildare County Development Plan 2023-2029 amends the following text of Section 15.11.2 (Applications Proximate to Overhead Lines) be updated to reflect the clearance distances from Solar panels recommended by Eirgrid as per the Transmission Line and Solar Farm Guideline Clearances available at: <https://www.eirgridgroup.com/site-files/library/EirGrid/8-Transmission-Line-and-Solar-Farm-Guideline-Clearances.pdf>

In determining applications proximate to overhead power lines, the planning authority will have regard to the clearance distances as recommended by ESB Networks for 10kV, 20kV and 38kV overhead lines, and by EirGrid for overhead lines of 110kV and greater.

Solar projects should take note of the most recent specific advice issued by ESB Networks and Eirgrid, which is currently:

- From ESB Networks: 'Interim Standard Guideline Clearances for Solar Farm to DSO Overhead Network'
- From EirGrid 'Transmission Line and Solar Farm Guideline Clearances'

For other non-solar developments:

- in proximity to a 10kv or a 38kv overhead line, no specific clearance is required by the ESB.
- in proximity to a 110kv overhead line, a clearance distance of 20 metres either side of the centre line or 23 metres around a pylon is recommended.
- in proximity to a 220kv overhead line, a clearance distance of 30 metres either side of the centre line or around a pylon is required.

4.5 Timescales

To date, we understand a total of 17 no. Solar PV developments have been permitted within County Kildare (2 no. more applications are currently being assessed by the Planning Authority), A number of the Solar PV developments permitted are outlined in Table 4-1 below. All of the applications outlined were granted an operational period of between 30 years to 35 years.

Table 4-1: Selected Permitted Solar PV Developments within Co. Kildare

Planning Reference	Decision and Duration	Brief Description
<p>Pl. Ref No.: 18969</p> <p>Location: Brownstown and Carnalaway, Kildare</p>	<p>Permission Granted: Subject to 13 no. conditions on 25th September 2019</p> <p>Application Duration: 5 years</p> <p>Operational Period: 30 years</p>	<p>A solar farm to be installed over restored landfill with an export capacity of approximately 3MW comprising photovoltaic panels on ground mounted frames, connection to existing single-storey ESB Sub- Station / switch room building, installation of 3 No. transformers, ducting and underground electrical cabling and all associated ancillary works and services. Revised by significant further information consisting of; construction management plan detailing construction techniques</p>
<p>Pl. Ref No.: 19888</p> <p>Location: Townlands of Hortland and Knockanally,, Donadea,, Naas,, Co. Kildare.</p>	<p>Permission Granted: Subject to 28 no. conditions on 3rd February 2020</p> <p>Application Duration: 10 years</p> <p>Operational Period: 30 years</p>	<p>Permission for a period of 10 years to construct and complete a Solar PV Energy development with a total site area of 38.08 hectares, to include two electrical substation buildings, six electrical transformer and inverter station modules, solar PV panels ground mounted on support structures, vehicular access, access gates and internal access tracks, one spare parts container, security fencing, electrical cabling and ducting, CCTV cameras and other ancillary infrastructure, drainage, temporary construction compound, landscaping and habitat enhancement as required and associated site development works and services. A Natura Impact Statement (NIS) will be submitted to the planning Authority with the application at a site</p>
<p>Pl. Ref No.: 19336</p> <p>Location: Moatstown,, Milltown, Athy, Co. Kildare.</p>	<p>Permission Granted: Subject to 5 no. conditions on 1st July 2019.</p> <p>Application Duration: 5 years</p>	<p>To amend the design of the approved development (Planning Reference 16/1007). Permission is also sought to amend the lifespan of the consented development from 27 years to 35 years. The development will consist of ground mounted solar panel photovoltaic (PV) farm to generate renewable electricity on a 12.02ha site, comprising solar arrays, associated electrical infrastructure, fencing, access improvements and ecologically beneficial landscape works at Moatstown Development Site, Milltown, Athy, Co. Kildare, ITM Grid Reference 665656, 696962, subject to 17 conditions. Amendments proposed are: No changes to red</p>

Planning Reference	Decision and Duration	Brief Description
	Operational Period: 35 years	<p>line boundary and no changes to perimeter fence or CCTV points; The height of the solar panels has been increased slightly from 2.3m to 2.5m, their angle span amended from 20-30 degrees to 10-40 degrees. Panels layout has been slightly reconfigured to account for the changes in the height. A slight increase in the overall land take from solar panels; Changes in land take for new access tracks from 3,500sqm to 1,890sqm; Temporary compound area to be moved 60m southwest, but will retain its overall size of 2,800sqm with slight alteration to its overall shape. Compound will be reinstated at the end of the construction phase; Energy Storage Area will be enlarged from 750sqm to 1,265sqm, an increase of 515sqm; Changes from four substations/energy storage containers and one grid connection point to two substations with larger areas of hardstanding and a grid connection point. The land take from the proposed changes is expected to change from 774sqm to 940sqm, an increase of 166sqm; overall decrease in ground disturbance/land take is expected to be approximately 929sqm.</p>
Pl. Ref No.: 20770 Location: Hortland, Knockanally Donadea, Naas, Co. Kildare	Permission Granted: Subject to 5 no. conditions on 15 th October 2020 Application Duration: 10 years Operational Period: 30 years	<p>To amend the design of the approved development (Planning Ref: 19888) which comprises consent for permission for a period of 10 years to construct and complete a Solar PV Energy development with a total site area of 38.08 hectares, to include two electrical substation buildings, six electrical transformer and inverter station modules, solar PV panels ground mounted on support structures, vehicular access, access gates and internal access tracks, one spare parts container, security fencing, electrical cabling and ducting, CCTV cameras and other ancillary infrastructure, drainage, temporary construction compound, landscaping and habitat enhancement as required and associated site development works and services at Hortland and Knockanally, Donadea, Naas, Co. Kildare subject to 28 conditions. Amendments proposed are: Extend the operational lifespan of the consent from 30 years to 35 years. The height of the solar panels will be reduced from 2.75m to a maximum 2.25m, with a reconfigured layout also now being incorporated; Although the height of the panels will decrease the solar modular rating and size will increase which will ultimately reduce the number of modules to be installed</p>
Pl. Ref No.: 20969 Location:	Permission Granted: Subject to 6 no. conditions on	<p>Amend the design of the approved development (Kildare County Council Planning Reg. Ref.17684 & An Bord Pleanála Reg. Ref. PL09.249155) which comprises planning permission for the development of a solar photovoltaic panel array consisting of the following; up to an area of</p>

Planning Reference	Decision and Duration	Brief Description
<p>Furryhill and Kiltel Lower,, near Kiltel,, Co. Kildare</p>	<p>23rd November 2020</p> <p>Application Duration: 10 years</p> <p>Operational Period: 30 years</p>	<p>92,400 m² of solar panels on ground mounted steel frames within a site area of 31.24 hectares; a fenced electricity substation compound to include 1 no. electricity control building and hardstands for ancillary electrical equipment; 10 no. inverter/transformer units; underground cable and ducts; internal access tracks and hardstanding areas; boundary security fence; CCTV and all associated site services and works, the existing access to the lands at the public road will be used for construction and operational purposes. Planning permission is sought for a period of 10 years. Amendments proposed are: Optimised Solar PV panel configuration located within the same areas of the site as previously permitted with the exception of an increased buffer distance under existing 38kV overhead electricity line from 14m to 34m; an increase in the solar panel area from the permitted up to 92,400 m² of solar panels to up to 157,000 sq.m of solar panels and; increase in height of solar panel array from the permitted up to 2.8m to up to 3.2m. Modifications and enlargement to the permitted on-site substation building and substation compound. The substation building will increase in size from c. 80 sqm as permitted to c. 150 sqm with an increase in height from c. 5.8m as permitted to c. 6.0m and the substation compound will increase in size from c. 700 sqm as permitted, to c.1081 sqm; Permission is also sought to amend the operational lifespan of the consented development from 25 years to 30 years.</p>
<p>Pl. Ref No.: 21114</p> <p>Location: Smithstown and Roosk, Co. Kildare.</p>	<p>Permission Granted: Subject to 6 no. conditions on 5th August 2021</p> <p>Application Duration: 10 years</p> <p>Operational Period: 30 years</p>	<p>Sought to amend the design of the approved development (Kildare County Council Planning Reg Ref 17/535) which comprises consent for the development of a solar photovoltaic panel array consisting of the following: up to 74,172 m² of solar panels on ground mounted steel frames within a site area of 25.04 hectares; a fenced electricity substation compound to include 1 No. electricity control building and hardstands for ancillary electrical equipment; 7 No. inverter/transformer units; underground cable and ducts; internal access tracks and hardstanding areas; boundary security fence; CCTV and all associated site services and works; a new entrance to the public road will be used for construction purposes, the existing access to the lands at the public road will be used for operational purposes. Planning permission is sought for a period of 10 years. Amendments proposed in this planning application are: Optimised Solar PV panel configuration with an increase in the solar panel area from the permitted up to 74,180 m² of solar panels to up to 150,000 m² of solar panels and increase in height of solar panel array from the</p>

Planning Reference	Decision and Duration	Brief Description
		<p>permitted up to 2.8m to up to 3.2m. The panel area will be primarily located within the same areas of the site as previously permitted with the exception of a decreased buffer distance under the existing 220kV overhead electricity line from approximately 60m as permitted to approximately 36m; decreased buffer distance around the existing 3 No. 220kV pylons from approximately 60m as permitted to approximately 46m; Modifications and enlargement to the permitted on-site substation building and substation compound are also proposed. The substation building will increase in size from c. 80 m² as permitted to c. 150 m² with an increase in height from c. 5.8m as permitted to c. 6.0m and the substation compound will increase in size from c. 700 m² as permitted to c. 1081 m²; Omission of 2 No. inverter/transformer hardstanding areas and minor changes of position of hardstanding from the permitted solar development to allow for a total of 5 hardstanding areas which will provide the base for 12 No. inverter and transformer units housed in sound suppression containers. 2 No. CCTV cameras have also been omitted from the permitted development to allow a total of 5 No. CCTV cameras; Modifications, reduction and realignment of the internal access tracks resulting in the reduction of access tracks from c. 2,130m as permitted to c. 1,650m as now proposed;</p>
<p>Pl. Ref No.: 211639</p> <p>Location: L1015 Road,, Towerhill,, Confey,, Leixlip, Co. Kildare.</p>	<p>Permission Granted: Subject to 21 no. conditions on 14th April 2022</p> <p>Application Duration: 10 years</p> <p>Operational Period: 35 years</p>	<p>For development at this site on land north of the L1015 Road. The development will consist of permission to amend the design of the approved development (Planning Reference 16/777) which comprises consent for a Solar PV Energy Development. Proposed amendments include: (1) Customer substation to be removed. (2) Transformer containers to relocate, increase in size and reduce in numbers. (3) Storage container to relocate. (4) Change in height and layout of deer fencing. (5) Reduction in height and number of CCTV cameras. (6) Change in height and angle of solar panels. (7) Slight alteration to the access tracks. (8) MW output to be reduced from 7.8MW to 7.4MW, and (9) Project lifetime proposed to be extended from 30 years to 35 years. Revised by Significant Further Information which consists of clarification that the site area is 13.16ha; the duration allowed for the works permitted under planning application reference 16/777 is sought to be increase to 10 years from the date of the final grant of permission (29th November 2016)</p>

4.6 Duration of Permission

In consideration of the contents of this submission and given the nature of proposed solar PV developments, Harmony Solar consider that the duration of the permission i.e., the period in which

the development can be completed, should be for a period of **ten years** from the date of grant of planning permission, pursuant to *Section 41* of the *Planning and Development Act* (as amended), as a best practice approach.

In this regard, *Section 41* of the *Planning and Development Act* (as amended) states that the consenting authority may:

“Having regard to the nature and extent of the relevant development and any other material considerations, specify the period, being a period of more than 5 years, during which the permission is to have effect”.

From the outset, it is noted that solar PV developments can take in excess of 5 years to reach construction phase. This is often due to the procedural requirements for grid connections and supply auctions together with financing and construction constraints. In this context, proposed solar PV developments are dependent on achieving a suitable connection to the electricity Grid network which is under the control of EirGrid or ESB Networks. While a grid connection application is made as part of any solar development, the timeframe for receiving an offer is unknown, therefore we respectfully request that the planning authority consider the issue as a material consideration given the nature of solar developments.

In addition to this, relevant support tariff or corporate power purchase agreement (PPAs) as well as securing project finance has introduced considerable delays for developers. On the basis of the foregoing, we strongly consider that it to be more appropriate for the Planning Authority to grant permission for solar PV developments for a longer period.

Although such guidelines are not specifically available for solar energy developments, the Department of Environment, Heritage and Local Government’s Planning Guidelines on Wind Farm Development states the following:

“Planning Authorities may grant permission for a duration of longer than 5 years if it is considered appropriate, for example, to ensure that the permission does not expire before a grid connection is granted. It is, however, the responsibility of the applicants in the first instance to request such longer durations in appropriate circumstances.”

In addition, the Department of the Environment, Heritage and Local Government’s Development Management Guidelines for Planning Authorities further notes that:

“Planning Authorities may grant permission for a duration of longer than 5 years if they see fit, but it is the responsibility of applicants in the first instance to request such longer durations in appropriate circumstances”.

It is noted that the timing of the construction and installation works for proposed solar arrays are predicted on a number of factors, not least of which is the surety of achieving planning permission for any such development, as this provides the context to pursue financial support mechanisms and facilitate fulfilment of grid connection offers from ESBN/EirGrid. It is for this reason that permissions

for a ten-year period is strongly believed to be appropriate and that such proposed developments cannot be thought of as being premature or unreasonable in considering the aforementioned factors.

4.7 Operational Period

Referring to table 4-1 above, it is noted that the operational period for each of the listed permitted solar PV developments is for a period of between 30 to 35 years. We can see that Kildare County Council have deemed a 35 year operational period for solar PV developments acceptable in the following planning applications:

- Reg. Ref. 19336
- Reg. Ref. 211639

For the reasons outlined below, Harmony Solar requests that future solar PV developments within Kildare be granted planning permission for an **operational period of 40 years** – i.e., that the planning permission specifies an operational period of 40 years from the date of commissioning of the solar farm.

The technology associated with solar photovoltaic cells and solar energy projects have made rapid advances in recent years. Ongoing technological progress has resulted in the minimum power warranty provided by manufacturers is at least 30 years and up to 40 years in some cases. As a result, the expected lifetime of PV modules is at least 40 years. In this regard it is suggested that permissions for solar PV are granted with a lifetime up to maximum of **40 years**.

Financing associated with solar energy developments, and indeed most significant infrastructure development, is based around its operational life and thus landholding agreements will be based on an approximate 35–40-year timeframe. It is therefore reasonable, that in order to maximise environmental and sustainable energy benefits of proposed solar developments, that a 35-year to 40-year operational lifetime is applied if planning permission is granted.

Having regard to the above, we refer to a recent precedent established by Offaly County Council under Planning Reg. Ref. 218. Offaly County Council issued a notification to grant permission in

January 2022 for a solar PV development on c. 53.7 ha., for an operational period of **40 years** from the date of commissioning of the solar development.

In addition, a recent legal precedent appears in a ruling against Spain by the *World Bank's International Centre for Settlement of Investment Disputes (ICSID)*⁵ in September of 2019, following a case brought by solar investors *OperaFund Eco-Invest* and *Schwab Holding* over retroactive feed-in tariff cuts.

In this instance, expert witness testimony for ICSID stated that the plaintiff's plants '*could have carried on working for a minimum of 35 years.* This view was further adopted in the final ruling.

Kildare County Council have previously deemed that a 35-year operational lifetime is appropriate for solar energy developments.

We implore Kildare County Council to take the above precedent into consideration when finalizing the Kildare County Development Plan 2023-2029 and recognise the necessity of applying a **ten-year duration of permission** to future solar development with an operation period of **40 years**.

Kildare County Development Plan (2023-2029)

Recommendation 7:

Harmony Solar request that Kildare County Council include specific objectives within Chapter 15 Development Management Standards of the 2023 - 2029 Development Plan which indicates that:

"The duration of the permission for solar PV developments (The period in which the development can be completed), should be for a period up to ten years from the date of grant of planning permission."

Furthermore, it is considered that an objective should be included that:

"The lifetime for future solar PV developments be granted planning permission for an operational period of 40 years"

The planning permission specifies an operational period between 40 years from the date of commissioning of the solar farm in order to maximize the environmental and sustainable energy benefits of proposed solar developments.

⁵ <https://www.greentechmedia.com/articles/read/europes-solar-market-grapples-with-35-year-plant-lifespans>

5. Conclusion

Harmony Solar welcome the opportunity to contribute to the Kildare County Development Plan 2023-2029. The plan is a valuable opportunity to realise and plan for, in an appropriate manner, the sustainable development of County Kildare.

In summary, we note that the Draft Development Plan 2023-2029 is generally supportive of renewable energy developments and more specifically solar energy schemes. Harmony Solar believes that utility scale solar development will be a key instrument in assisting Ireland to meet its legal commitments in respect to renewable energy production allows rapid deployment with few environmental or amenity issues. The technology does require a significant quantum of space, and this is likely best located in rural areas, however this does not mean utility scale solar development is in competition with or will inhibit agriculture.

In this submission, we have provided Kildare County Council with 7 no. key recommendations in relation to the Solar PV developments; we trust that each of which will be given full consideration in finalising the Kildare County Development Plan 2023-2029.

We look forward to any further material alterations and subsequent final publication of the Kildare County Development Plan 2023-2029 in due course.