An Chomhairle Oidhreachta
The Heritage Council

Planning Ref: 2360677

28 March 2024

Dear Sir/Madam

Re: 2360677: the installation of a 34.11hectare/84.28 acre solar farm at lands known as Brehony's Bog, within the townland of Monaincha, Roscrea, Co. Tipperary (E: 616980, N: 687790 (ITM)). The solar farm will consist of a series solar photovoltaic (PV) panels mounted on steel support structures and will measure 2.00m in overall height. Ancillary development to the installation of solar PV panels includes 12no. transformers; 106no. pole-mounted CCTV cameras measuring 2.75m high; underground cabling; 3.80km (approx.) of fence line measuring 2.00m at highest point; creation of new graded internal access tracks approximately 4.00m wide from two existing gated entrances on northern site boundary, each measuring 6.50m wide. A temporary compound measuring 5,000sqm will be established during the construction phase of the solar farm, whereupon the area will then be used for the siting of solar PV panels following the construction phase. The proposed solar farm will operate over a 40-year period, after which it will be decommissioned, with all associated lands returned to their original use. A Natura Impact Statement (NIS) has been prepared and submitted in support of this planning application.

The Heritage Council was established in 1995 as a statutory body under the Heritage Act 1995 with a Council (the Board of the body) appointed by the Minister. The Heritage Council is a prescribed body under the provisions of the Planning and Development Acts 2000-2010 and S.I. No. 600/2001 of the Planning and Development Regulations, section 28 inter alia, in accordance with its functions under Section 6 of the Heritage Act, 1995. We seek to provide submissions on forward planning, development control and strategic infrastructure developments as they relate to Ireland's heritage, namely built, cultural and natural heritage.

GENERAL

The Heritage Council support efforts to increase renewable energy rollout in Ireland. Increased global temperatures and changing climate patterns will pose risks to natural ecosystems and habitats. Therefore, we acknowledge the need to roll out renewable energy schemes, to reduce the country's carbon emissions.

It is also important to note that this is a relatively new frontier in the Irish land use planning landscape. The number of applications for solar farms are increasing and the Heritage Council wish to contribute constructively to how these developments interact with our natural and built heritage.

Baill na Comhairle | Council Members

Martina Moloney (Cathaoirleach | Chairperson), Michael Farrell, Dr. John Patrick Greene, Sammy Leslie, Fionnuala May, Deirdre McDermott, Dr. Patricia O Hare, John G. Pierce, Sheila Pratschke, Prof. Mark Scott, Dr. Mary Tubridy

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Due the scale of some of the solar farms being proposed, and their specific locations, presumably south facing aspects, there will inevitably be a land use impact with archaeology, given the prevalence of ringforts (*dun, lios or rath*), as well as other archaeological sites, in the Irish countryside. In addition, there is a need to ensure that solar farm development does not undermine biodiversity ambitions, or indeed the rationale behind the need for renewables. The latter relates to the development of solar farms on carbon rich peat soils, bogs, and fens and if, this is in fact, suitable.

We have studied the application documentation, with particular emphasis on the Natura Impact Assessment, Ecological Impact Assessment and Archaeological Impact Assessment Report. Our comments are therefore confined primarily to archaeology and the carbon/biodiversity aspects of the scheme. They are divided as per the following:

1. Natural Heritage
    - Ecology and Carbon storage of peatlands
2. Built and Cultural Heritage
    - Archaeology

NATURAL HERITAGE

Ecology and Carbon Storage of Peatlands

The application site is indicated to be approximately 34 hectares. The northern section of the site (approximately 8 hectares) is in agricultural use, comprising improved agricultural grassland (GA1), wet grassland (GS4) and dry meadows and grassy verge grassland (GS2) / recolonising bare ground (ED3) mosaic, as per the Heritage Council's Fossitt *Guide to Habitats to Ireland* classification. While the southern section of the site is raised bogland, characterised in the ecological assessment as (PB4) Cutover Bog.

There are several European sites nearby, and of particular interest given the nature of the proposals is the Sliabh Blooms SPA, which is a noted hen harrier (*Circus cyaneus*) site. The NIS has rightly pointed out that the development site, and other nearby bogs are located within the maximum foraging range of the Hen Harrier, although no significant impacts are envisaged. We would however ask Tipperary County Council that they ensure that they are satisfied that the cumulative effect of this development and the nearby windfarm is properly considered in this regard.

The Ecological Assessment has detailed potential impacts on proposed Natural Heritage Areas/ Natural Heritage Areas (pNHA/NHA), the closest of which is the Monaincha Bog/Ballaghmore Bog NHA. There is also a detailed explanation in this assessment of more general habitats, as well as the flora and fauna associated with site itself.

The Heritage Council would like to clarify two particular points in relation to the proposed development and its interaction with both existing biodiversity and the carbon storage potential of peatlands.

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1. Does the development and siting of solar farms on cutover bog compromise rehabilitation of such bogs, therefore undermining policies in county development plans and national policy on biodiversity conservation, and climate change mitigation?

2. Does the positioning of solar farms on peatlands, specifically carbon rich bog lands alter rainfall/ sunlight penetration patterns in such a way that the bog further oxidises, therefore becoming a source of carbon, therefore negating the climate benefits of the scheme?

The Ecological Impact Assessment report has described habitats on site. It is difficult to discern without the aid of a detailed map the exact locations of the flora compositions described in Section 4.1 of this assessment. However, it is clear from aerial imagery that there is a distinctive difference between the obvious cutover degraded bog immediately to the west on adjoining lands, and the development site in question. Whilst both fit the description of cutover bog (PB4), it is clear the vegetation composition on both sites is very different. The development site, particularly the southeastern section appears to be less degraded than the lands immediately west of the site, which appear completely denuded of vegetation, which has been rightly described in the Ecological Impact Assessment. We believe that greater emphasis on the biodiversity value of the marginal areas around the cutover bog is needed. This would also give a more accurate picture of the ecological value of the bogs prior to them being cutover.

The south-easternmost area of the development site has been described as having been "more recently used for turbary," with the vegetation characterised by "isolated pockets of purple moor grass (*Molinia caerulea*) and common rush (*Juncus effusus*) with local abundances of common cotton grass (*Eriophorum spp*) and tormentil (*Potentilla erecta*). Whilst the presence of ragwort (*Jacobaea vulgaris*) and dock species (*Rumex obtusifolius)* on other sections of the site are negative indicators for peatland quality, common cotton grass is a positive indicator. Indeed, given parts of the development site have seen more recent turf cutting, we assume that there are in fact various levels of degradation across the development site. In fact, the Fossit Guide to Habitats in Ireland, in its description of cutover bog, explicitly states that "*areas of bog that are being actively worked are included in this category".*

Whilst cutover bog (PB4) may be characterised in the assessment to be of local importance and low value, this does not capture rehabilitation potential. Again, the Fossit Guide when describing cutover bog (PB4) the habitat is variable and recolonising vegetation will depend on several factors. Tipperary County Council will benefit from a site visit to this location, and we recommend that this point is considered, insofar that if the bogland is not fully degraded (the land adjoining to the west is an example of this), is it then suitable for solar farm development, in biodiversity terms and in terms of soil stability. In the case of the latter, we would also recommend that Tipperary County Council satisfy itself that development of this solar farm is suitable on peat substrate, given the

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inherent instability of such soils. The improved grassland in the northern section of the site is likely to be characterised by peat substrate also.

Finally, there is a question of building solar farms in peatlands, specifically bogs, degraded or not. Precedent should be sought in this regard. The main argument behind solar PV infrastructure is the need to de-carbonise our economy. This is valid. However, it is important to remind Tipperary County Council that climate mitigation is not just reducing our carbon emissions at source but also protecting existing stores of carbon. Ireland is one of the most important countries in the world for carbon storage of peatlands and bogs.

We have consulted the Scottish Natural Heritage Advice on such matters. They rightly point out that "*there is currently a lack of evidence about how installation and operation of a solar farm might affect peatland".* They go on to say that *"however we know that peatland habitat can be easily disturbed, and a reduction in rainfall and sunlight below panels is likely to affect vegetation composition".* The siting of solar farms and the mechanism for fixing the panels to the soil may disturb already disturbed peat. Therefore, we would have concerns that any development on peat may push the system into a further mineralisation state. Their advice is to potentially avoid carbon rich soils. The question therefore is what level of degradation is suitable for peatlands to be considered no longer carbon rich?

In essence, renewable energy is needed to reduce our carbon emissions but if that same renewable infrastructure directly leads to peaty soils emitting more carbon, the net positive effect of such a solar farm may be negated significantly. There should be an opportunity for the applicant to demonstrate how this has been considered by further information. Whilst it may be that an EIA was not required, there is a need for climate/ carbon dynamics to be assessed as part of the application.

Although we recommend a precautionary principle and have concerns, if Tipperary County Council are minded to grant permission on this scheme, then we would mirror the Scottish Natural Advice and recommend that the developer should by way of condition be a pilot early consent case for scientific monitoring of how solar farms impact on precipitation, rainwater storage in peatlands etc.

Built and Cultural Heritage

Archaeological

Whilst the site has no national monuments, or protected structures within the development boundary, there are several important features (Monaincha Abbey) located to the north of the site, while a Crannog (RMP TN018-002) is located to the southwest. Both the archaeological reports provided with the planning documentation have indicated that there are no significant finds or features on the site, and that the impacts on the setting of the Crannog had been already compromised by the milled peatlands and wind farm located nearby.

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However we would like to ensure that the setting of the monument at Monaincha Abbey, and the ecclesiastical enclosure opposite, both of which are located to northwest of the site, be considered carefully during the construction phase (traffic flow management of HGVs will be needed on the local rural road); and that adequate planting and screening along the north western boundary of the site, if required, be included by way of condition.

It does appear that Tipperary County Council sought further information, however these related to missing pages in the Archaeological and Heritage Impact Assessment. Whilst noting the trench test excavations to the north, a geophysical survey could be undertaken for the southern section of the site. Regarding any unknown archaeological features on site, the mitigation notes:

"that groundworks for the development be monitored by a suitably qualified archaeologist under licence to the National Monuments Service which will take up to three weeks to procure. If archaeological features are identified through this exercise, all works will cease in the vicinity of the feature which will be cordoned off and the appropriate authorities will be contacted in order to agree a suitable strategy to proceed".

This should be included by way of condition.

CONCLUSION

Solar farms will be a feature of the Irish landscape going forward. The Heritage Council support renewable energy rollout, but not at all costs. We are keen to constructively contribute to ensuring that good design and heritage considerations are properly addressed in rolling out such infrastructure. In this specific case we have raised questions regarding the suitability of solar development on carbon rich peatland soils. There is need to ensure that the benefits of the solar farm are not negated by a simultaneous further damaging of carbon rich soils. There is currently a concern that the proposal may not comply with Policy 11 – 15 and strategic objective SO -1 of the Tipperary County Development Plan 2022-2028.

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