Our Case Number: ABP-319566-24

An Bord Pleanála

An Taisce
5 Foster Place
Dublin 2
D02 V0P9

Date: 18 June 2024

Re: The proposed development will comprise of a 600MW Powerplant, 120MW Battery Energy Storage System, Above Ground Installation and associated ancillary works.
Located within the townlands Kilcolgan Lower and Ralappane between Tarbert and Ballylongford Co.Kerry. (www.steppowerplant.com)

Dear Sir / Madam,

An Bord Pleanála has received your submission in relation to the above mentioned proposed development and will take it into consideration in its determination of the matter.

The Board will revert to you in due course in respect of this matter.

Please be advised that copies of all submissions / observations received in relation to the application will be made available for public inspection at the offices of the local authority and at the offices of An Bord Pleanála when they have been processed by the Board.

More detailed information in relation to strategic infrastructure development can be viewed on the Board's website: www.pleanala.ie.

If you have any queries in the meantime please contact the undersigned officer of the Board. Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

pp

Ellen Moss
Executive Officer
Direct Line: 01-8737285

PA09

Teil	**Tel**	(01) 858 8100
Glao Áitiúil	**LoCall**	1800 275 175
Facs	**Fax**	(01) 872 2684
Láithreán Gréasáin	**Website**	www.pleanala.ie
Ríomhphost	**Email**	bord@pleanala.ie

64 Sráid Maoilbhríde
Baile Átha Cliath 1
D01 V902

64 Marlborough Street
Dublin 1
D01 V902

Ellen Moss

From: Bord
Sent: 17 June 2024 17:35
To: Marine
Subject: Fw: Ref. 319566
Attachments: 20240617-ABP-319566.pdf

From: Phoebe Duvall <Phoebe.Duvall@antaisce.org>
Sent: Monday 17 June 2024 5:17 pm
To: Bord <bord@pleanala.ie>
Subject: Ref. 319566

A Chara,

Please find attached a submission from An Taisce in relation to Ref. 319566.

Regards,

Phoebe Duvall

Senior Planning and Environmental Policy Officer
An Taisce - The National Trust for Ireland
5 Foster Place, Dublin 2, Ireland
Phone: 01 454 1786
www.antaisce.org

Company Reg. No. 12469 | Charity Ref. No. CHY4741 | Charity Regulator No. 20006358
An Taisce is a membership-based charity
Join at www.antaisce.org/membership

Please note that I work Monday through Thursday.

An Taisce
The National Trust for Ireland
5 Foster Place
Dublin 2, Ireland
D02 V0P9

20240617-ABP-319566

An Bord Pleanála,
64 Marlborough Street,
Dublin 1,
D01 V902

Sent by email to: bord@pleanala.ie

17th June 2024

Ref: ABP-319566-24
App: Shannon LNG Limited
For: The proposed development will consist of the following components: • Three (3 No.) blocks of Combined Cycle Gas Turbines (CCGT), each block with a capacity of approximately 200 megawatts (MW) for a total installed capacity of up to 600 MW.• A 120 MWh (1-hr) Battery Energy Storage System (BESS). • Above Ground Installation (AGI) compound. • High voltage 220 kV Gas Insulated (GIS) Substation. • Auxiliary Boiler. • Raw water treatment and storage. • Structural / Architectural Buildings (various). • Sewerage drainage system. • Process effluent collection system and sump. • Firewater storage tanks and fire water pumps. • Ancillary buildings. • Secondary Fuel Offloading storage.
Site: Kilcolgan Lower and Ralappane, between Tarbert and Ballylongford, Co. Kerry and on the Shannon Estuary

A Chara,

Thank you for referring the above application to An Taisce for comment.

1. Climate Legal Obligations

1.1 An Bord Pleanála Section 15 Obligations under Climate Act

From the outset, we would highlight that Section 15(1) of the Climate Action and Low Carbon Development Act 2015 (as amended) places obligations on relevant bodies, including An Bord Pleanála:

> "*15(1) A relevant body shall, in so far as practicable, perform its functions in a manner consistent with—*
> *(a) the most recent approved climate action plan,*
> *(b) the most recent approved national long term climate action strategy,*

(c) the most recent approved national adaptation framework and approved sectoral adaptation plans,
(d) the furtherance of the national climate objective, and
(e) the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State."

In order to ensure alignment with these obligations, it is imperative that the Board assesses how any polluting emissions associated with the proposed development will be prevented, avoided and how these will avoid the lock-in to fossil gas. The Climate Action Plans are legally bound by the carbon budgets, therefore, per s.15(1) above, An Bord Pleanála is also bound to objectives of the budgets and sectoral ceilings in its decision making. It should be noted that emissions in each sector represent the sum of all individual emitters. If it cannot be clearly demonstrated that any proposal being considered by the Board is compatible with Climate Act requirements, including the legally binding carbon budgets and sectoral emissions ceilings, then it should be refused.

1.2 Carbon Budgets and Emissions Reduction Obligations

On-time compliance with two carbon budgets and the corresponding sectoral emissions ceilings): 295Mt for 2021-2025 and 200Mt for 2026-2030 based on a 2018 baseline is legally binding per the Climate Act. The recent EPA projections for Budget 3 from 2031-2035 provisionally fixed that budget at 151 Mt CO2 eq.

We submit that the applicant has failed to explain how the emissions associated with the long-term supply and usage of fossil gas for electricity generation, as proposed in the subject application, is compatible with the State's legal obligations under the Climate Action and Low Carbon Development Act 2015 (as amended). Aside from a reference to the possible transition to hydrogen production, it is not clear how the long-term lock-in of emissions associated with the power plant will be prevented or abated. This is wholly incompatible with our national and European climate targets as well as with the level of rapid decarbonisation needed as repeatedly highlighted by the IPCC.

The proposal does not demonstrate how it will be compatible with the legally binding carbon budgets and the successional reduction of emissions allowances. The EPA's latest emissions projection report released in May 2024 already projects that Ireland will reduce its emissions by only 29% by 2030, relative to the initial target of 51% (compared to a 2018 baseline).[1] The EPA report also states that: "*Almost all sectors are on a trajectory to exceed their national sectoral emissions ceilings for 2025 and 2030, including Agriculture, Electricity and Transport*", and that "*The first two carbon budgets (2021-2030) will not be met, and by a significant margin of between 17 and 27 per cent.*" Any overshoot of the 2021-2025 carbon budget will need to be carried over into the 2026-2030 period, thereby making that budget and the corresponding sectoral ceilings, including for electricity, even more stringent and much tighter than the 51% initial 2030 target. Crucially, without serious course correction, all post-2030 budgets will also be much stricter as a result of the overshoots. The applicant does not appear to consider the proposal's compatibility with increasingly tight carbon budgets, and this should all be taken into account by the Board in discharging its responsibilities under s.15(1) of the Climate Act. This also raises concerns about investment into a major GHG-emitter at a time of urgent emissions reduction needs, and which has the potential to become a stranded asset.

[1] https://www.epa.ie/news-releases/news-releases-2024/ireland-is-projected-to-exceed-its-national-and-eu-climate-targets.php#:~:text=Agriculture%2C%20Industry%20and%20Electricity%20sectors,reduction%20in%20greenhouse%20gas%20emissions.

With regard to the second carbon budget, the applicant states the following: *"The annual emissions of the Proposed Development will be 2.7% of Irelands carbon budget for the year 2030"*. First, there is no carbon budget for a specific year - the budget is for the five-year period 2026-2030. If the intention is to refer specifically to the year 2030, it is speculative and it is not clear whether it incorporates the EPA projections from 2021-2025. Either way, it is unclear if that percentage incorporates the projected exceedances from the first carbon budget period which are required to be carried over into the second period, which would result in the subject proposal representing an even larger percentage of emissions for this period. Notwithstanding all of that, 2.7% of one budget allowance being taken up by emissions from this one facility is a substantial proportion.

The EIAR's greenhouse gas (GHG) Emissions Assessment Methodology relies incorrectly again upon the 2030 year rather than the 2026-2030 budget and has not been modified to allow for the projected exceedances of the first carbon budget: *The projected operational GHG emissions in 2030 will then be contextualised against the 2030 carbon target"* (Ch 15, p. 15).

The EIAR also appears to understate the requirements of the Paris Agreement, failing to include the crucial word "well below" rather than simply below 2 degrees C. They also completely omit any reference to preferably below 1.5 degrees C: "*Paris Agreement (Conference of the Parties No.21, 2016): A legally-binding agreement within the UN framework convention on climate change which requires all signatories to strengthen their climate change mitigation efforts to keep global warming to* ***below 2°C this century*** *(UNFCCC, 2016)."* (EIAR 15.4.1).

1.3 Operational Life and Construction Timeframe

We consider the proposed 25-year operational lifetime to be an unacceptable length of time for a fossil gas power plant to be operational in light of the climate emergency, the urgency of emissions reduction objectives, and our legally binding carbon budgets and sectoral emission ceilings requirements. The lock-in this entails would set a precedent of reversion to fossil-gas reliance when society's trajectory requires rapid and deep decarbonisation on the pathway towards net-zero, thus jeopardising our commitments and obligations. It does not appear that the applicant has provided a rationale for requiring a 25-year operational period or assessed the compatibility of that with our increasingly stringent carbon budgets.

We bring the Board's attention to Annex 2 'Securing Ireland's Gas Supplies' within the Government's 'Energy Security Package Review', particularly Section 3.10[2], which clearly shows the need for a reduced role for gas in Ireland's energy future:

> *"Natural gas demand sees a significant reduction of between 68-78% from 2030 to 2040, depending on the scenario considered. This demonstrates the significant reduction of natural gas use anticipated, reducing the reliance on imports during this period and its limited role in our energy system as we reach 2040".*

While a small amount natural gas-fired generation in the short to medium term may be required for back-up generation to account for renewables intermittency, this **must** remain within the carbon budget thresholds (taking into account the projected exceedances and subsequent budget reductions). Furthermore, this does not mean that all gas-fired power plant proposals should be granted permission. The subject proposal commits to a pathway of gas-fired generation well into the 2050s, which locks us into **long-term** gas use. It ignores the need for sharply reducing the annual

[2] https://www.gov.ie/en/publication/5c499-energy-security-in-ireland-to-2030/

power generation of gas plants to ensure carbon budget compliance, as well as reducing the amount of time which these plants are operational throughout the year and associated GHG emissions. This is outlined effectively within the MaREI Institute's research[3]:

> *"New natural gas-fired power capacity is urgently necessary to meet climate commitments to replace older, more carbon-intensive generation capacity, but to meet carbon budgets, the annual power generation from natural gas plants (i.e. the actual operation of these plants annually) must fall by more than half by 2030."*
>
> *"While additional natural gas-fired power capacity is necessary in all scenarios, the share of time that natural gas capacity is used must be more than halved this decade for natural gas usage and CO2 emissions to reduce in line with the Sectoral Emissions Ceiling. This cannot be achieved without a very rapid acceleration in renewable electricity capacity deployment – around 15 GW of new wind and solar capacity this decade – and this challenge is amplified with higher demand growth from data centres."*
>
> *"This modelling analysis shows that around 2.4 GW of additional gas-fired power generation capacity is necessary to deliver security of electricity supply while displacing older, more carbon-intensive thermal generation capacity. However, the power sector can only remain within its Sectoral Emissions Ceiling if the operation of gas plants rapidly reduces, particularly from 2025 onwards. This cannot be achieved without a broad set of mitigation measures, including rapid deployment of onshore and offshore wind and solar PV at unprecedented rates in Ireland. Concurrently, reducing electricity demand growth from data centres and large energy users will reduce reliance on gas plants while enabling zero carbon electricity to be directed at displacing fossil fuels in industry, heat and transport."*

We also note that the proposed construction timeframe of 32 months, which is proposed to commence in January 2026 should permission be granted, means that the facility will be completed only a year before 2030 if all goes according to the applicant's timeline. This calls into question the feasibility of the applicant's stated aim to, *"back-up renewable generation and thereby maintain a resilient electricity supply to the country while supporting the transition to 80% renewable generation by 2030".* Furthermore, a 2029 commencement date for operations and a 25-year timeline brings the facility into 2054, with only what we consider to be a remote possibility of transitioning to a 50% hydrogen blend. Consequently, there is an unacceptable likelihood of a high GHG-emitting and energy-intensive facility operating beyond the 2050 net-zero date, as agreed by the international community within the Paris Agreement.

Given that the plant, if granted permission, is only due to commence full operations just before or after 2030, the 2031-2035 carbon budget is highly relevant. The recent EPA Budget 3 for 2031-2035 is provisionally fixed at 151 Mt CO2 eq. In the With Existing Measures scenario this is projected to be exceeded by 160 Mt CO2 eq and in the With Additional Measures scenario by 93 Mt CO2 eq. Effectively the emissions from the plant would represent non-compliance with the legally binding third carbon budget as presently projected.

[3] Daly, H. Irish electricity and gas demand to 2050 in the context of climate commitments. MaREI Institutehttps://www.friendsoftheearth.ie/assets/files/pdf/ucc_marei_-_research_report_-_final.pdf

1.4 EU Emissions Trading Scheme

We note that the required participation of the development in the EU Emission Trading Scheme and the purchase of the associated emissions permits relates to mitigation obligations under EU climate law. This does not negate, prevent, or act in place of the legal obligations under the national carbon budgets and sectoral emissions ceilings in accordance with the Climate Action and Low Carbon Development Act 2015 (as amended).

2. Assessment of Climate Impacts

2.1 Major Adverse Climate Impact

EIAR Chapter 15: Climate states that:

> *"the total GHG estimated to be emitted from the operational phase of the Proposed Development have been calculated to be 21,742,544 tCO2e over the course of the 25-year period...direct emissions from the Proposed Development in 2030 would equate to approximately 2.8% of Ireland's estimated emissions allowance...the significance of effects would be* ***Major Adverse****".*

We do not consider that the applicant has set out mitigation measures that in any way adequately address what they have concluded will be a major adverse impact on climate.

2.2 Fugitive Emissions and Methane Leakage

We note that the GHG emissions accounting methodology fails to include operational fugitive emissions, including methane, a harmful by-product of natural gas combustion. Scope 1 (Direct GHG Emissions), within Table 15.2 of the Climate chapter of the EIAR, claims to include fugitive emissions within Scope 3 – Fuel and Energy-Related Activities. However, within the Scope 3 (Other Indirect Emissions – Upstream) category, these emissions are labelled as "N/A – none expected". We consider this to be a significant omission given the adverse effects of methane leakage into the atmosphere and its contribution to the GHG effect. This introduces an unacceptable level of risk and scientific uncertainty into the proposal, which requires remediation via stringent accounting for methane leakages.

A methane leakage rate of more than 3% renders a greenhouse impact worse than a coal plant. No estimate of fugitive emissions is offered. Fugitive emissions need to be added to the GHG emissions total. We would highlight that the global warming potential of methane over a 20-year period is 81.2 times greater than the equivalent CO_2 emissions.

Therefore, the projected 21,742,544 tCO_2e associated with the operational timeframe of the subject proposal is likely to be an underestimation. This fact, combined with the exceedances required to be carried over from the first carbon budget into the second and the change in calculations this entails, ensures that the proposed power plant could account for more than the stated 2.7% of Ireland's carbon budget for the year 2030.

2.3 Cumulative Impacts

As a preliminary matter, it should be ensured that project splitting does not occur with any the other elements of the Shannon Technology and Energy Park (STEP).

We note as an example the following statement from EIAR Chapter 5 on Land, Soils and Geology:

> *"Cumulative impacts arising from the related SLNG Natural Gas Pipeline, Data Centre Campus, SLNG Strategic Gas Reserve Facility and medium voltage (10 / 20 kV) / 220 kV power supply developments envisaged under the STEP Masterplan were considered and no significant cumulative effects were identified to geology and soils. These developments will be subject to separate EIARs. The cumulative operational effect of the Proposed Development and cumulative schemes are considered to be Imperceptible to Slight."*

However, section 15.10.1 states the following regarding cumulative emissions impacts with other future STEP project elements:

> *"As described previously, separate to this planning application, the wider site is also intended to be further developed with 220 kV and medium voltage (10 / 20 kV) power lines, as well as a possible future Strategic Gas Reserve Facility and data centres which will be subject to a future consent.* ***The cumulative impact of wider site activities has not been assessed****, but it should be noted that the emissions calculated within this assessment are part of a wider masterplan" [An Taisce emphasis].*

We therefore question why cumulative impacts with other STEP project elements are being assessed under some EIA categories and not others. We would highlight the potential for significant climate impacts arising from other STEP project elements, namely the potential data centre.

We would also strongly question the following statement in section 15.10.1 on the cumulative emissions assessment:

> *"it is not possible to define a study area for the assessment of cumulative effects of GHG emissions, nor to undertake a cumulative effects assessment, due to the geographically unconstrained nature of GHG emissions. Consequently, effects of GHG emissions from specific cumulative projects should not be assessed as there is no basis for selecting any particular cumulative project over any other."*

We submit that this is not compliant with EIA Directive requirements and Climate Act requirements, as it would apparently rule out any attempt to assess cumulative emissions impacts, even where emissions quantities are known at facility and sectoral levels.

3. Feasibility of Hydrogen Transition

Table 13.29 (Climate Change) of EIAR Chapter 13: Population and Human Health: states: *"Furthermore, it is noted that after the* ***25-year operational phase*** *of the Proposed Development, the Power Plant* ***may transition to a hydrogen powered facility*** *which will aid decarbonisation of the national grid"* [An Taisce emphasis].

It is also stated that: *"the ability of the Power Plant to operate at a 50% blend of hydrogen by design, offers the potential for the Power Plant to become even more efficient in emission terms over the period to 2050 as and when the required policies and supply chains for hydrogen are implemented."*

The transition of a gas network to hydrogen use is very complex technically and procedurally – it remains uncertain with regard to its commercial and technical viability, as well as its scalability. This displays an unacceptable level of uncertainty due to the reliance on a technology whose rapid and widespread deployment is questionable within the specified timeframe. The applicant appears to assume that a hydrogen supply chain will be in place, however, this remains uncertain.

Ireland's strategic hydrogen development timeline displays production, transportation, storage and end-use elements which are not feasible until 2033-38 or 2038-2050. This is a late transition given the urgency of fossil fuel phase-out and the stringent sectoral emission ceilings. Some elements such as small-scale storage applications and network blending do not appear to have the greenlight for 2038-2050.[4]

Also, only a 50% hydrogen blend is undesirable as it is implied that fossil-fuel combustion will remain an integral feature of the proposed facility, creating further long-term lock-in to fossil fuel use. Moreover, any blend of hydrogen and natural gas with over 20% hydrogen raises serious technical and safety issues with the compatibility of the blend with existing infrastructure such as pipelines and heating appliances. The proposal does not assess the practicality or cost of achieving a 50% mix.

There is also an issue regarding the share of energy which will be required for the process of electrolysis to fuel hydrogen production, if the hydrogen transition occurs within the proposed facility. With limited and insufficient renewable energy capacity for this process, natural gas would be likely utilised which exacerbates fossil gas lock-in. There is no consideration of relative energy costs vis a vis gas vs. wind or hydrogen v. wind. A lock-in to gas use for 25 years with speculative comments on end-of life-conversion to hydrogen use is not acceptable given domestic and international emissions reduction obligations.

Therefore, we submit that the potential future use of hydrogen cannot be used as a sustainability measure to justify the proposed gas plant. We submit that close consideration be given to these issues by the Board.

4. Decarbonisation: Renewables Penetration vs. Emissions Reduction

The applicant repeatedly states that the proposal will play a key role in decarbonising Ireland's energy system because it supports achieving the target of 80% of electricity to be generated from renewables by 2030, particularly by addressing the intermittent nature of renewables generation. This focus on supporting the renewables target is misleading, however, because it obfuscates the fact that the key to decarbonisation is ultimately emissions reduction, not renewables penetration. The renewables target simply represents the share of electricity produced by renewables; this does not automatically equate to reductions in emissions, as the overall level of electricity demand can still increase. Indeed, it is predicted to do exactly that in Ireland over the coming years. Critically, the only thing that the atmosphere will respond to is emissions reductions. In focusing overwhelmingly on decarbonisation

[4] Department of the Environment, Climate and Communications. National Hydrogen Strategy. Page 7. https://www.gov.ie/en/publication/624ab-national-hydrogen-strategy/

by supporting the renewables target, the applicant has consistently failed to acknowledge the above distinction and address the emissions reduction issue.

5. Energy Security Concerns

The Moffat Interconnector supplying natural gas to Ireland from Scotland will continue to operate and is not anticipated to be cut off in the event of an emergency, according to the UK's National Grid. This point appears to be lacking in the applicant's analysis of security supply and the necessity of new domestic fossil gas power plants.

It is important to note that although fossil gas generation forms a significant portion of Ireland's fuel mix and is important for electricity supply in the short-term, it does not follow that any and all additional fossil gas generation is necessary or supportive of Ireland's climate and energy objectives.

In assessing energy security considerations it is particularly important that the Board addresses the potential for gas and electricity assets to become underutilised, uneconomic and ultimately stranded resulting in greater insecurity. This is particularly relevant in the context of the new target of "up to 80%" renewable electricity by 2030, as well as full decarbonisation by 2050 in accordance with the Climate Act's climate neutrality target.

UCC research on behalf of the EPA regarding fossil fuel lock-in risks indicates that:

> "*From a policy perspective, it is important that the market model and payments for energy, capacity and flexibility are designed to expedite the transition to zero carbon and are not sunk costs in fossil fuel generation and infrastructure*". They also note that "in *future scenarios with a tight top-down carbon constraint, difficult-to-reach projects with high capital costs, along with carbon-intensive reserves, face a high stranding risk*".[5]

Furthermore, McMullin *et al* (2018)[6] make the point that filling the generation gap caused by intermittent renewables with natural gas can actually lead to a more precarious energy security situation, if alternative clean energy sources are ill-considered in terms of research & development and if a diversified energy mix is not pursued ambitiously: *"Such a reliance on natural gas in electricity generation, more or less to the exclusion of other fossil fuels, coupled with progressive electrification of heat and transport, would then make Ireland's overall energy security even more precarious than it is now."*

We submit that favouring conventional power plants at the expense of investment in clean fuels exacerbates the fossil gas lock-in problem and elevates the risk of stranded assets.

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[5] Celine McInerney, Conor Hickey, Paul Deane, Joseph Curtin and Brian Ó Gallachóir on behalf of the EPA, 'Fossil Fuel Lock-in in Ireland: How Much Value Is at Risk?' (2015-CCRP-MS.27) Research Report No 302, 2019. https://www.epa.ie/publications/research/climate-change/Research_Report_302.pdf

[6] McMullin, B.; Price, P.; Carton, J. & Anderson, K. (2018) "Is Natural Gas 'Essential for Ireland's Future Energy Security'?: A Critical Response to the Irish Academy of Engineering." Stop Climate Chaos. https://doras.dcu.ie/28148/1/is_natural_gas_essential_for_irelands_future_energy_security_scc_study_november_2018.pdf

6. Previous Pipeline Permission Status

The natural gas for the proposed development will be sourced from the existing natural gas network at Leahy's Co. Limerick, which was the subject of a prior permission from ABP (PL08.GA0003) for a gas pipeline to connect Shannon LNG Terminal with this natural gas site:

> *"The previously consented 26 km Shannon Natural Gas Pipeline (Planning Reference: PL08.GA0003), once constructed, will facilitate transport of natural gas to the Site from the national gas network at Foynes. Shannon LNG Limited obtained consent in February 2009 for Natural Gas Pipeline under Section 182C (1) of the Planning and Development (Strategic Infrastructure) Act 2006, as amended." (Planners Report, page 6).*

An Taisce submits that the current planning status of the pipeline permission, which was granted over 15 years ago, must be clarified, namely whether it is still valid. Any material changes to that permission as result of the needs of the subject application must be taken into account. We also submit that any environmental assessments associated with the 2009 permission are now 15 years out of date – we do not believe that they could comply with current EIA and Habitats Directive obligations. Indeed, neither the 2011 EIA Directive (2011/92/EU) nor the 2014 updated Directive (2014/52/EU) were in force at the time. If a new application is required, the Board should consider the potential implications for the cumulative impact assessment in the EIAR and NIS for the subject application.

7. Impacts to Lower River Shannon SAC & River Shannon and River Fergus Estuaries SPA

We note that the impact of the proposed sewage outfall on water chemical parameters is assessed within the NIS. However, while the NIS refers to various chemical parameters, the impact of warm water discharges on the species of the SPA and SAC does not appear to have been considered. Salmon and lamprey are just some of the aquatic QI species of the SAC, both of which have declining populations as a result of various environmental pressures. The potential impact of the discharge of warm water, 28 degrees Celsius above ambient temperature, should be assessed and risk discounted before granting permission. This is particularly pertinent in a cumulative impact context, with other industrial outlets in the estuary discharging warm water, combined with rising sea temperatures as a result of climate change and marine heat waves.

7.1 Impact on Breeding Waders

We note that there are at least four breeding wader species associated with the River Shannon and River Fergus Estuaries SPA (site code: 004077) as Qualifying Interests (Qis); Ringed Plover (Charadrius hiaticula) [A137], Golden Plover (Pluvialis apricaria) [A140], Lapwing (Vanellus vanellus) [A142), Dunlin (Calidris alpina) [A149]. Many of these species are known to be experiencing a sharp decline in their numbers, with a 98% decline in breeding pairs in Ireland since the 1980s reported by the NPWS,[7] therefore necessitating urgent protection of their habitat. Of note is that *"energy production processes and related infrastructure development"* are listed as a pressure on these species. Consequently, any downstream impacts of pollutants from the construction and operational

[7] NPWS. Status and Distribution of Breeding Eurasian Curlew in Ireland 2021. https://www.npws.ie/sites/default/files/publications/pdf/IWM138.pdf

phase of the proposed development require careful scrutiny and mitigation due to observation of waders on the shoreline near to the subject site.

The NIS outlined a number of wader sightings and a total of eight red-listed species:

> *"A total of 42 bird species were recorded during the 2021-2023 estuarine bird surveys. Four Annex I species were recorded i.e. Great Northern Diver, Red-throated Diver, Sandwich Tern and Little Egret. Thirteen of the 21 SCI species for the River Shannon and River Fergus Estuaries SPA were recorded i.e. Cormorant, Wigeon, Teal, Ringed Plover, Grey Plover, Lapwing, Light-bellied Brent Goose, Dunlin, Curlew, Redshank, Greenshank, Shelduck and Black-headed Gull. Eight other Red List species were recorded, Curlew, Dunlin, Grey Plover, Lapwing, Oystercatcher, Razorbill, Redshank and Snipe."*

The NIS claims that: *"Wading birds and waterfowl foraging along the shoreline are likely to habituate to the regular nature of the noise and disturbance associated with the Power Plant and continue to forage here."*

However, different bird species are known to react in very different ways to disturbance, some will be highly sensitive, others less so. It does not appear that a sensitivity analysis was carried out to determine if this blanket assumption of habituation is applicable to all the SCI species which occur in the vicinity of the proposed development. Without such analysis, this statement cannot be accepted without evidence, nor can the conclusion of no impact based on this assumption.

In regard to the noise levels, the NIS outlines that blasting will occur as part of the construction of the development. The NIS outlines that this blasting may have a significant impact on SCI species:

> *"According to Cutts et al. (2013), a single sudden sound such as blasting will generally cause more disturbance than a constant or regular noise regardless of noise level. The typical response would be for birds to move away from affected areas to less disturbed areas. Birds that remain in the affected area may not forage effectively and this may impact on survival and foraging rates."*

While the NIS discounts this risk thus:

> *"It is noted that a range of measures will be adopted during the blasting stage of the construction phase to minimise the impact of air overpressure as far as practicable. Given the distance from sensitive receptors, overpressure and vibration impacts from blasting will not be significant."*

We note that the 'range of measures' has yet to be finalised (see below). Additionally, the applicant relies on the distance, without listing what the distance to those receptors is, or what proportion of the bird population utilises the area over which the sound would be impactful. We submit that while the applicant seeks to discount this risk based on a 'range of measures' and the distance from the sensitive species, the paucity of information does not provide a strong basis to conclude beyond reasonable scientific doubt that there will be no impact on the SCI species of the SPA.

Furthermore, we note that the NIS claims that the noise levels will be below 65dB, even during peak construction.

"Noise levels along the shoreline of the Shannon Estuary during peak construction works are predicted to be between 50dB-65dB"

This is the same level of noise as a normal conversation. We would query the reliability of that estimate given the necessary blasting, and given the ease with which noise moves over open water, particularly in certain weather conditions. The lack of clarity regarding which mitigation measures will be employed add further doubt.

While we welcome the commitment to ongoing noise and vibration monitoring:

"a regime of noise and vibration monitoring will be undertaken during the construction phase to determine compliance with the nominated criteria and to provide a feedback mechanism so that corrective action can be taken in the event of exceedances."

We would observe that this would clearly be post consent analysis, and it is incumbent on the decision maker to be able to conclude beyond reasonable scientific doubt that there will be no adverse impact on the integrity of the Natura 2000 site at the point of permitting the development.

It would appear that the mitigation measures for preventing noise exceedances are still to be determined:

"A commitment has been made to adopt the operational noise limits detailed in this assessment as requirements in final design, including the need to address distinctive acoustic characteristics and/or adjust the noise limits accordingly. Mitigation measures are likely to include the following:
- *Silencers*
- *Attenuators*
- *Specification of low noise plant wherever possible*
- *Inclusion of acoustic barriers* "

An Taisce consider that leaving detailed noise control mitigation measures to be drafted and implemented after licensing classifies as a post consent condition. This is impermissible and could not be considered 'point of detail' conditions provided for under s.34(5) of the Planning and Development Act 2000 (as amended). In the case People Over Wind v An Bord Pleanála (2015)[1] it was argued that, in regard to post consent conditions:

"...in respect of which there would be no public consultation or participation, there would be no possibility for the examination, analysis and evaluation under Article 6(3). It would not be possible to establish, in advance of the consent to the development whether such mitigation measures would protect the integrity of the River Barrow and River Nore SAC," (Para. 202).

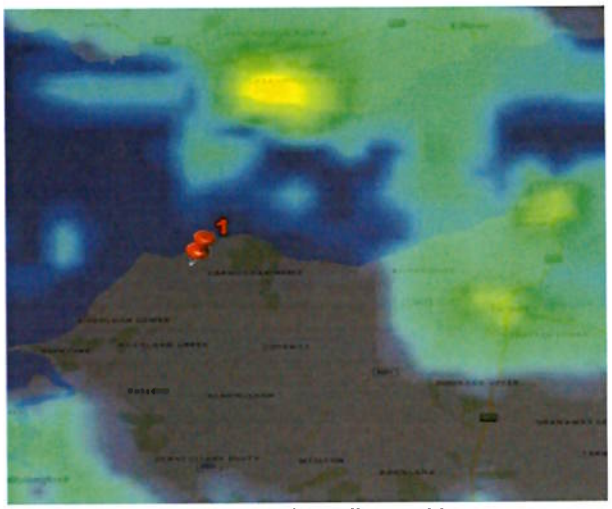
8. Visual and Light Pollution Impacts

We submit that the proposed facility will lead to the intensification of industrialisation within a region already containing a high degree of industrial activity. This will lead to further disturbances to the visual amenity of the area.

We would also highlight the existing areas in the region containing sources of high emitting light, which we submit could be exacerbated by the proposed development. This would lead to the

extension of the light pollution area into the site occupied by the subject proposal, an area which currently is devoid of a high light emitting source, as demonstrated below by a screenshot from a light pollution map which is frequently utilised by Dark Sky Ireland.[8] The effect of this would be to intensify light pollution cumulatively with existing sources to the north and east of the subject site, with consequent impacts upon human health, insects and other species residing in the water. For example, ecological light pollution effects are known to induce changes in circadian rhythms, interference with orientation and migration patterns, alterations of predator-prey interactions and other behavioural and physiological effects.[9]

Site Location Map from Application Documents



Site Area from Light Pollution Map

9. Conclusion

On the basis of the points raised in this submission, we recommend that An Bord Pleanála refuse permission for the subject application.

Please acknowledge this submission and advise us of any decision made.

Is muidne le meas,

Seán O'Callaghan
Planning Officer
An Taisce – The National Trust for Ireland

Phoebe Duvall
Senior Planning and Environmental Policy Officer
An Taisce – The National Trust for Ireland

Dr. Elaine McGoff
Head of Advocacy
An Taisce – The National Trust for Ireland

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[8] https://www.lightpollutionmap.info/#zoom=11.57&lat=52.5773&lon=-9.4248&state=eyJiYXNlbWFwIjoiTGF5ZXJCaW5nUm9hZCIsIm92ZXJsYXkiOiJ2aWlyc18yMDIzIiwib3ZlcmxheWNvbG9yIjpmYWxzZSwib3ZlcmxheW9wYWNpdHkiOjYwLCJmZWF0dXJlc29wYWNpdHkiOjg1LCJtYXJrZXJzIjp7Im1hcmtlcjEiOlstMTA1MTA3MSw2OTA1NjYzXX19

[9] https://www.darksky.ie/dark-sky-ireland-research-and-publications/#lighting-recommendations