

Shannon LNG Application Submission - Objection

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Case Reference Number: PA08.311233

Applicant: Shannon LNG Ltd

Dear Sir/Madam,

Please find attached Kinvara Climate Action's objection to Shannon LNG proposed Liquefied Natural Gas Importation Terminal, located in the townlands of Kilcolgan Lower and Ralappane, Ballylongford, Co. Kerry. The objection is presented on pages 2-10, with references attached pages 11- 13.

Kinvara Climate Action have also collected signatures in order to urge An Bord Pleanala in the strongest manner possible to refuse permission for this application which is both morally unsound and will have profound climate, environmental and human rights impacts. Signatures are presented on pages 14 -16. Please find enclosed a 50 euro check for the submission fee.

Yours Sincerely

Jennifer Fisher on behalf of Kinvara Climate Action.

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Description

10-year permission for proposed Shannon Technology and Energy Park consisting of power plant, battery energy storage system, floating storage and regasification unit, jetty, onshore receiving facilities, above ground installation and all ancillary structures/works.

Kinvara Climate Action would like to object to An Bord Pleanála with regard to this application on the following grounds.

- 1. Climate**
- 2. Human Rights**
- 3. Biodiversity and Environment**
- 4. Interaction of Impacts**

1. Impacts on Climate

Climate Bill

Kinvara Climate Action feel it would not be appropriate to allow a project such as Shannon LNG to gain planning permission in the midst of a climate emergency and in light of Ireland's current regulatory framework namely current Government policy and the Climate Bill (2021). The Climate Action and Low Carbon Development (Amendment) Bill (2021) states that "*For the purposes of performing their respective functions under this section, the Minister and the Government shall have regard to the risk of substantial and unreasonable carbon leakage as a consequence of measures implemented by the State to pursue the national climate objective*". Carbon Leakage is defined in the bill as "*the transfer, due to climate policies, of*

production to other countries with less restrictive policies with regard to greenhouse gas emissions'. Shannon LNG would certainly fall into this category as the upstream emissions associated with fracked gas are enormous and there is very limited regulation of these industries in the U.S.

Climate Action Plan and Government Policy

Section 15-12 Table 15-22 of the EIAR states that *“under the 2019 Climate Action Plan, natural gas has been identified in the Climate Action Plan, and the National Energy and Climate Plan, as the only remaining dispatchable power source capable of providing significant security of electricity supply when wind sources are insufficient”*. This climate action plan preceded the publication of the Climate Action and Low Carbon Development (Amendment) Bill (2021). A new Climate Action Plan is currently being drawn up with comprehensive carbon budgets attached, the plan commits to the reduction of emissions by 51% by 2050. According to the Intergovernmental Panel on Climate Change (IPCC) there is no pathway to remain within 1.5°C that is compatible with natural gas expansion (Rogelj et al (2018)). Thus gas should not be considered a bridge fuel. The new climate action plan must be aligned with the Paris Agreement, a legally binding international treaty on climate change. It was adopted by 196 Parties, including Ireland at COP 21 in Paris, on 12 December 2015. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. In addition the government has released a policy statement - *“pending the outcome of the review of the security of energy supply of Ireland’s electricity and natural gas systems, it would not be appropriate for the development of any LNG terminals in Ireland to be permitted or proceeded with”*. It is clear that the government recognises the massive climate impacts associated with these LNG terminals.

Fracking and the Climate

The use of the words ‘natural gas’ in section 15.12 table 15-22 of the EIAR is misleading as the majority of gas produced in the US is fracked or shale gas which is known to have a much higher carbon footprint than conventionally extracted gas or even coal. This is a blatant lack of transparency. According to the U.S. Energy information administration (2016) fracking accounts for two thirds of all gas production in the States. Indeed a recent study in Biogeoscience concluded that fracking in North America over the last ten years may have contributed more than half all the increased emissions from fossil fuels globally (Howarth 2019). This is extremely alarming since scientists say that methane over the span of 20 years is 86 times more potent than carbon dioxide in the atmosphere (Scientific American 2016). There are no details provided within the application of the source of the gas that will be shipped into Ireland. This is a huge failing of the application. New Fortress Energy (of which Shannon LNG is a subsidiary) is heavily invested in fracking activities in Pennsylvania. In fact, according to the Pennsylvania Department of Environmental Protection statistics fracking makes up over 98% of Gas produced in the State (PDOE 2017). In addition Professor Robert Howarth, an expert on global Methane cycle, stated that *“If Ireland were to import liquefied natural gas from the United States, it would largely be shale gas”* when he addressed the Oireachtas Joint Committee on Climate Action in 2019. There is no doubt that the majority of the gas will be coming from fracked sources.

Total Life Cycle Emissions from Fracking

A strong focus on greenhouse gas (GHG) scope 1 emissions (those associated with direct GHG emissions from sources owned or operated by Shannon LNG) in the EIAR is inadequate to address the climate impact of the proposed development. Scope 2 and 3 emissions i.e. those associated with the downstream burning of methane, the upstream extraction at source, flaring, leakage and transport emissions of the methane all need to be considered. Thus the full life cycle emissions of Shannon LNG must be examined in order to understand the climate impact of this development. The atmosphere does not care where the methane comes from, and if we sincerely want to address the Climate crisis we will need to assess impacts on a global scale.

Gas Networks Ireland Conflict of Interest

In section 3.2.4 of the EIAR there is the following statement '*The Department of Communications, Climate Action and Environment, with support from the Commission for Regulation of Utilities (CRU) commissioned Gas Networks Ireland (GNI) and EirGrid to complete a Security of Supply review in 2018, called the Long Term Resilience Study 2018 (GNI and EirGrid, 2018)*'. We believe that Gas Networks Ireland has a vested interest in its own continued operation. For this reason we think that the role of Gas Networks Ireland (GNI) in the security of supply review is compromised and that the review should be independently evaluated. In terms of the proposed LNG development Gas Networks Ireland is a client/customer, thus it is a conflict of interest that they are utilising their own report to support the project. We submit that Gas Networks Ireland is not fair and impartial and has a very different public and private face. In public they have an advertising campaign entitled Gas Networks Ireland - Progress Naturally. This advertising is greenwashing by focusing on solutions like biogas or so called 'renewable gas' which is at best a niche climate solution and at worst a distraction. One particular line within the campaign is particularly disturbing '*and now as we prepare to introduce fully renewable gas into our network we're moving Ireland into an even cleaner energy future naturally*'. The clever wording above implies that vast quantities of 'renewable gas' are available to the grid when actually the percentage of the overall supply will be very small. Behind the scenes GNI are supporting the importation of fracked gas, that doesn't seem to be in any of their Adverts.

Gas Networks Vision is Not Viable

Gas Networks Ireland's (GNI) vision as outlined in section 15.4.4 of the EIAR is heavily reliant on untested technologies; such as carbon capture and storage (CCS) and by utilising so-called 'renewable gas' (such as biomethane and green hydrogen). Carbon capture and storage technologies have never been tested to scale nor are they economically viable. These technologies could hypothetically be useful in a power station scenario, but would have no benefit in preventing methane leaks during extraction and transport etc. (Jacobson 2019). In one study on carbon capture by (Jacobson 2019) when life cycle greenhouse gas emissions and on site carbon costs of CCS equipment were accounted for, very low levels of carbon were captured (approximately 10-30%)(Jacobson 2019). Thus at least 70% of greenhouse gases were escaping to the atmosphere. In a second paper which was a review of the literature on industrial carbon removal the authors concluded that "*the*

commercial Industrial Carbon Removal (C-ICR) methods being incentivized by governments are net CO2 additive: CO2 emissions exceed removals” (Sekera & Lichtenberger 2020). In these cases the CCS technologies were worse than if we actually burned the fossil fuels in the absence of CCS.

There are three main types of hydrogen production processes, grey, blue and green (Brunel 2021). The most common form is grey and is produced using fossil fuels and results in the release of a lot of greenhouse gases. The blue form is also produced using fossil fuels with so called ‘carbon capture and storage’ technology. Lastly there is the green form which is produced using renewable technologies. Creating green hydrogen needs a massive amount of electricity which would mean we would need a massive increase in the amount of renewable energy in the state. According to the International Renewable Energy Agency (IRENA), *the world will need 19 exajoules of green hydrogen in the energy system in 2050 — between 133.8 million and 158.3 million tonnes a year (Collins 2020). Some current estimates are that we need to install more offshore wind capacity than in the previous 20 years, every year for the next 30 years(Brunel 2021).*

Section 15.6.1.2 of the EIAR, outlines how GNI will “evolve to become net-zero carbon by 2050”. Two core methods are put forward in order to achieve this goal a) *“The injection of 50% zero and net-zero carbon gas (such as biomethane and green hydrogen) into the network to displace half the natural gas required to meet customer demand; and b) The use of carbon capture and storage technology to abate the remaining emissions from the consumption of gas in the power generation sector and by large industry.* According to the EIAR *“each of these methods is anticipated to contribute approximately half the emissions reductions required to decarbonise the gas network”.* Based on the information outlined in the preceding paragraphs Kinvara Climate Action would like to suggest that Gas Networks Ireland's vision for carbon neutrality is a fairytale of their own making in order to continue their business as usual model of operation. This vision should in no way be accepted as an endorsement of the proposed LNG Import Terminal, nor should it be used as a justification to build this high carbon fossil fuel infrastructure on the basis that it will be decarbonised at a later date, there is no evidence of that.

Lock in fossil fuels/ data centres create demand

According to Section 1.8.1 of the EIAR *“The masterplan vision for the expansion of the site also includes a Data Centre Campus”.* We know that we have 10 years to rapidly decarbonise our economy and to reduce greenhouse gas emissions by 51%(Climate Bill 2021). It will be impossible to achieve these reductions while at the same time expanding our energy consumption. As it stands Ireland is currently home to 46 data centres (Lillington, K (2018). According to Eirgrid, *'The long-term demand forecast in Ireland continues to be heavily influenced by the expected growth of large energy users, primarily Data Centres'* Eirgrid (2020). The rapid expansion of data centres in Ireland is creating a massive demand for energy and is compromising our energy security, while simultaneously locking us into the need for more and more fossil fuel power generation/infrastructure. The cumulative impact of this data centre campus needs to be assessed in combination with all other data centre applications pending. It seems that Shannon LNG Ltd are attempting to grow the market for fracked gas in Ireland; this runs contrary to our obligations to rapidly decarbonise under the climate bill (2021).

Stranded Assets

Fossil fuel companies and vested interests want us to consider fossil gas as a bridge fuel to a cleaner, greener economy. They use creative accounting methods such as only measuring the emissions created when we burn methane and not counting the massive impact of methane leaks at every stage of its extraction and transport. But scientists have been saying for years that we have a limited carbon budget remaining and that we cannot afford to build new fossil fuel infrastructure. According to Foresight - Climate and Energy (2018) new gas infrastructure risks fossil fuel lock-in. Companies like New Fortress Energy, who are invested in fossil fuel infrastructure want to maximise their profits and will not wish to retire such projects early, especially if the plant is likely to become obsolete before realising a return on investment.

2 - Impacts on Human Rights

A recent report entitled 'International Human Rights- Impacts of Fracking' (Hickie & Geoghegan 2021) has extensive information on how fracking affects Human rights both locally where the fracked gas is extracted and internationally. The report lists some of the 'risks of harms' caused by fracking to include '*detrimental impacts on water, air, climate stability, public health, farming, property values, and economic vitality*'. In addition the report states that '*certain communities and persons are disproportionately impacted by fracking, including pregnant women, children, communities of color, Indigenous peoples, and communities living in poverty*'. Fracking is a threat to human rights due to its known contribution to climate change at an international level. A whole suite of international agreements and treaties contain rights which are impacted by fracking including the Paris Agreement (2015) and the following treaties.

- *The International Covenant on Civil and Political Rights (ICCPR);*
- *The International Covenant on Economic, Social and Cultural Rights (ICESCR); The United Nations Convention on the Rights of the Child (CRC);*
- *The United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW);*
- *The United Nations Convention on the Rights of Persons with Disabilities (CRPD);*
- *The International Convention on the Elimination of All Forms of Racial Discrimination (ICERD).*

European States also have obligations under the European Convention on Human Rights (ECHR) to address the rights and freedoms contained within the convention which may be impacted by fracking. It is clear from this report that, if this development were allowed to proceed, Ireland would be in breach of its international and regional human rights obligations (Hickie & Geoghegan 2021).

Ireland banned fracking in 2017 as it is an inherently harmful process both globally and especially where it is extracted. It is hypocritical to import fracked gas. In terms of global justice, Ireland would be benefiting from a commodity that has caused huge damage and suffering where it was sourced.

3. Impacts on Biodiversity

3.1 Biodiversity – Direct Impacts of the Proposed Development

Impacts on Birds

The site of the proposed development is within and adjacent to two Natura 2000 sites namely the River Shannon and River Fergus Estuaries SPA and the Lower River Shannon SAC. The site synopsis for the SPA describes the site as “*an internationally important site that supports an assemblage of over 20,000 wintering waterbirds*”. I note from the EIAR section 7B.3.5.6 that an estuarine survey was carried out for two winters and one summer at 6 locations, 3 to the west and 3 to the east (Figure 7b-11). We feel that the duration of the summer survey should be extended to include data from a second summer season. This would be in line with NPWS comments presented in (section 7A.3.6, Table 7A-2) i.e. “*a two-year survey of bird use of the estuary within 2 km of the proposed jetty and FSRU infrastructure is recommended, with a year being the minimum requirement*”.

We also note that the NPWS requested information “*on potential impacts on birds offshore and within shipping routes*” (In section 1.6 table 1.1). We feel that the impacts associated with the shipping route were ignored and that the survey was inadequate as it was only carried out in the vicinity of the proposed development site and no data was available for birds along the shipping route. According to ‘Site Selection and LNG Operations in Port Areas: Essential Best Practices for the Industry’ it will be necessary for safety reasons to have an exclusion zone around gas tankers such as these LNG vessels. These exclusion zones mean that other vessels may not approach within 0.5 miles (approximately 800m) of these tankers. Thus for safety reasons any passing vessels must be pushed out of the main navigation channels into adjacent areas. This will have the effect of changing the whole navigation regime of the estuary. We believe for this reason it is essential to map the navigation route to include the exclusion zone and to assess the indirect effect of boating traffic (diverted by the LNG vessel) which may cause disturbance to any adjacent habitats or species (specifically QIs of the Natura 2000 sites) along the shipping route.

Impacts on Dolphins

The only known population of resident Bottlenosed Dolphins in Ireland occur in the Shannon Estuary and are a qualifying interest of the Lower River Shannon cSAC. Although this population is small, studies have shown that it may be genetically distinct from other populations and thus be of very high conservation import (Mirimin *et al.* 2011).

NPWS have made the following comments as part of scoping for the EIAR. “*NPWS requested that if blasting is required, then impacts on fauna including birds and dolphins be assessed*” (Table 1-1, section 1.6). “*The area proposed for the jetty and FSRU infrastructure is within the area mapped as critical habitat for the bottle-nosed dolphin Map 16, Conservation Objectives*). *The conservation target for these areas is that they “should be maintained in a natural condition”. The NIS will need to address the compatibility of the Proposed Development with the conservation objective for this species within the cSAC, and provide sufficient data and expert opinion to satisfy*

reasonable scientific doubt that the proposal will not adversely affect the integrity of the Lower River Shannon cSAC”(Section 7A-3-6 table 7A-3).

The estuary in the vicinity of the proposed LNG development seems to be an important commuter corridor for Bottlenosed Dolphins. The following statement is present in section 7A-4-4 of the EIAR: *“Visual observations from shore at Ardmore Point show that the site is regularly used by the dolphins, which pass by the area but rarely stop and socialize or forage there; it is more likely used as a transition corridor to move between the outer and inner estuary”*. We note that *“Because cetaceans are reliant on sound for critical survival activities such as navigating, orientation, foraging, and communicating with other group members, it makes them extremely vulnerable to noise disturbance”* (O’Brien et al 2016). We are concerned that noise and disturbance caused during the construction and operation phases of this development will have displacement impacts on the population of Bottlenose Dolphins in the estuary by limiting their ability to commute between areas of favourable habitat to the east and west of the proposed development site.

As stated by (Sini et al 2005) *“Short-term interruptions of normal activity could have long-term adverse effects on a population of dolphins, through reductions in the time available for foraging or resting, abandonment of favoured habitats, disruption of social bonds ,or through physiological effects of stress”*. The paper goes on to state *“Such long-term effects are most likely to take the form of subtle decreases in reproductive success and survival”*. We feel that any such behavioural impacts have not been assessed and that the low numbers within this important population of dolphins make them highly vulnerable to impacts such as this one that could be a factor which undermines their reproductive success.

3.2 -Biodiversity – Indirect impacts

According to the Biodiversity Climate Change Sectoral Adaptation Plan published by the NPWS in Nov 2019 *“By the end of the century, climate change is likely to become the most significant driver of biodiversity loss. Increases in temperature will change the timing of life cycle events and the distribution of species. The physical impact of more intense storms and increased winter/spring rainfall will accelerate the degradation of habitats that are already compromised by unsustainable practices.”* Kinvara Climate Action therefore recognise that the greatest threat to the integrity of the Natura 2000 sites will come as a result of inaction in the face of climate change. By allowing developments such as Shannon LNG to progress we are undermining our own life support system and that of our environment.

Section 15.5.1.3 of the EIAR explains it really well when it states that *“A disruption to global climate is already having diverse and wide-ranging impacts on the environment, society, economic and natural resources. Known effects of climate change include increased frequency and duration of extreme weather events, temperature changes, rainfall and flooding, and sea level rise and ocean acidification. These effects are largely accepted to be negative, profound, global, likely, long-term to permanent, and are transboundary and cumulative from many global actions”*. The biodiversity of the Estuarine habitats in the vicinity of the proposed development will not be immune to these ‘profound’, ‘permanent’, ‘transboundary’ and ‘cumulative’ impacts.

Vos et al (2010) lists some of the impacts of climate change on species and habitats; some of these impacts are included below.

- temperature increase, changing precipitation patterns, increase in weather extremes, sea level rise
- Impact on species caused by changes in: physiology : photosynthesis, respiration, evapotranspiration,
- Impact on species caused by changes in: phenology : timing processes life cycle, geographical distribution, increased population fluctuations, genetics: micro-evolutionary adaptations, interaction with existing anthropogenic pressures: habitat fragmentation, eutrophication, drought, industrial warming of surface water, fixed coasts and riverbeds.
- Effects on functioning ecosystems, changes in species composition, changes in species interactions,
- Impacts on habitats caused by changes in: drought , drowning, increased water table fluctuations, changing water and soil conditions: eutrophication, acidification, reduced period of snow cover, melting glacier ice, increased flooding, storm risks, fires, increased salinity, (coastal) erosion.

The EIAR has not even begun to assess the indirect impacts (such as those mentioned above) associated with allowing LNG terminals to continue to be developed. In fact over half of the increase in emissions from fossil fuels globally are attributable to the cumulative impact of LNG operations associated with fracking in North America (Howarth 2019). Kinvara Climate Action would like to advise that assessing impacts of climate on a local and national scale is completely inadequate when dealing with the climate emergency. Failing to address the international climate impacts of the project will result in a failure to identify high magnitude impacts on the integrity of the Natura 2000 sites locally.

Within an estuarine ecosystem the most obvious change that will occur as a result of climate change is due to the temperature of the water. Most aquatic organisms have a temperature range which they prefer (Pletterbauer et al., 2018) and deviations from this range can have severe consequences, as almost every aspect of biology is affected. As the temperature moves further away from the ideal range there will be fewer individuals of a species, or eventually none as all will have died or dispersed (Barry et al 2020). According to a recent IFI report the number of fish kills are expected to increase as a result of climate change (Barry et al 2020). The report states that “*High water temperatures, low flow and low dissolved oxygen in combination can be catastrophic and cause fish kills*”. Such fish kill events are already happening in Irish waters (Irish Examiner 2018).

So to surmise the Climate Action and Low Carbon Development (Amendment) Bill (2021) states that “*the minister and the government shall have regard to the need to promote sustainable development and restore, and protect, biodiversity*”. Thus An Bord Pleanála should refuse permission for this LNG development which could never be described as sustainable. The cumulative impact of LNG developments if assessed together could have catastrophic impacts on the climate with drastic knock-on effects on the Natura 2000 sites and all the habitats and species which they support.

4- Interactions of Impacts

According to EC (2017a) Guidance document on the preparation of the Environmental Impact Assessment Report. *The environmental impact assessment shall identify, describe, and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors: (Directive 2011/92/EU as amended by Directive 2014/52/EU)*

(a) population and human health,

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage and the landscape;

(e) the interaction between the factors referred to in points (a) to (d).

As in Factor E above, the EIAR did not properly assess the impacts on Climate as they interact with human health, population, biodiversity, water, land and soil, air quality, material assets, cultural heritage and landscape.

Conclusion,

In light of the information outlined above, we the members of Kinvara Climate Action and our supporters undersigned would urge An Bord Pleanála in the strongest manner possible to refuse permission for this application which is both morally unsound and will have profound climate, environmental and human rights impacts. (see signatures pages 14 –16)

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