

Marine Licensing Team,
Marine and Fisheries Division,
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Cromac Avenue,
Belfast, BT7 2JA

To whom it may concern,

RE: Islandmagee Gas Storage Project Consultation (ML 28_12)

The Northern Ireland Marine Task Force (NIMTF) is a coalition of non-government environmental organisations – it includes RSPB NI, Ulster Wildlife, Wildfowl and Wetlands Trust, WWF, Marine Conservation Society, Keep Northern Ireland Beautiful, National Trust, Friends of the Earth, Irish Whale and Dolphin Group and Northern Ireland Environment Link. Through the combined membership of our organisations, NIMTF has the support of approximately 100,000 local people. We are working towards, healthy, productive and resilient seas for Northern Ireland.

NIMTF welcomes the opportunity to respond to this public consultation and we fully support the RSPB NI, Ulster Wildlife and National Trust responses to the consultation. Our response below, sets out the reasons as to why NIMTF objects to the granting of a marine licence for this project.

Summary of the position of the Northern Ireland Marine Task Force

The Northern Ireland Marine Task Force has serious concerns with the following aspects of the project:

- The project justification presented in the submitted documentation is outdated;
- Construction of project infrastructure is proposed within a highly designated area - North Channel Special Area of Conservation (SAC), Larne Lough Special Area of Protection (SPA) and the proposed East Coast SPA and is functionally linked to Portmuck ASSI, the Gobbins ASSI and the Maidens SAC;
- Super saline brine will be discharged within the North Channel SAC and the proposed East Coast (NI) SPA;
- Construction of the seawater intake and brine outfall pipe has the potential to cause a temporary threshold shift (TTS) and permanent threshold shift (PTS) to harbour porpoise, TTS to grey seals and TTS to fish whereby hearing involves a swim bladder or other gas volumes (this may cause behavioural effects at individual or population level);
- The link between vital ecosystem components such as fish and foraging birds has been omitted;
- The impact of underwater noise and vibration from the formation of the caverns under Larne Lough has not been assessed;
- The brine dispersion model has not accounted for storm surges;

- The mitigation proposed for disturbance to marine mammals (use of Marine Mammal Observers (MMO)) is not adequate;
- There is a significant discrepancy between the size of the construction footprint for the brine outfall pipe within the Construction Method Statement and shadow Habitats Regulation Assessment.
- Significant policy frameworks, such as the Northern Ireland Marine Plan, Environment Strategy for Northern Ireland and Energy Strategy remain to be implemented and/or are currently under public consultation.

For these reasons, the Northern Ireland Marine Task Force objects to the granting of a marine licence for the Islandmagee Gas Storage Project.

Consultation Process

The information contained within the Environmental Impact Statement¹ (EIS) is almost a decade out of date (dated March 2010) and the presentation of the old non-technical summary² is unacceptable as it presents misleading information to stakeholders and members of the public who may not be able to read the other 2,000+ pages contained in the subsequent documentation. As an example, the overlap between the project area and the North Channel SAC and East Coast pSPA is a significant omission from both the EIS and non-technical summary.

Project Justification

The information presented in Section 1.3 of the EIS (Project Justification) is out of date, with no updated facts and figures, and as such, the current and projected energy use in NI is misrepresented. Below are some examples of the outdated statistics contained in the submitted EIS, against more recent statistics:

- **EIS:** *Imported gas is expected to meet over 70% of UK demand due to the rapid decline in North Sea Gas production. Recent evidence:* The UK currently produces 44% gas and imports 47% via pipeline and 9% via LNG tankers.³
- **EIS:** *Secure gas supplies are important for the UK as it is the world's fifth largest consumer of gas. Recent evidence:* The UK is the 10th largest consumer of gas.⁴
- **EIS:** *At present, NI produces and consumes 7% of its electricity from renewable sources. Recent evidence:* 44.9% of NI energy comes from renewables.⁵
- **EIS:** *The EU has set EU wide targets for...a 20% share for renewables in the energy mix... Recent evidence:* New EU Renewable energy Directive (2018) establishes a new binding

¹ <https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/eis-chapters.pdf>

² <https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/eia-non-technical-summary.pdf>

³ <https://www.britishgas.co.uk/the-source/our-world-of-energy/energys-grand-journey/where-does-uk-gas-come-from>

⁴ <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2018-full-report.pdf>

⁵ <https://www.economy-ni.gov.uk/sites/default/files/publications/economy/Issue-13-Electricity-Consumption-and-Renewable-Generation-in-Northern-Ireland-October-2018-to-September-2019.pdf>

renewable energy target for the EU for 2030 of at least 32%, with a clause for a possible upwards revision by 2023⁶.

From recent reports (such as those above) it is clear that the UK and NI is on a path towards cleaner, more sustainable energy.

Within the submitted documentation, it is unclear who the beneficiaries of the stored gas will be and as such, the assumption that the gas will be used as a 'back-up' during the transition to renewable energy is not proven.

NIMTF wishes to draw attention to the following statement: ***“the Islandmagee gas storage facility will be one of the biggest power consumers in Northern Ireland when running at peak operations”***⁷ (pg. 8-18). It is also not clear how the storage facility will be powered.

Effects on Habitats and Species

The proposed seawater intake and brine outfall pipes are located in the North Channel Special Area of Conservation (SAC, UK0030399), which has been designated for the protection of harbour porpoise (*Phocoena phocoena*). The Natura 2000 data sheet⁸, states that for harbour porpoise the North Channel SAC *“is considered to be one of the best areas in the United Kingdom”*. As such, **it is unacceptable to allow levels of noise capable of causing a Temporary Threshold Shift (TTS) and Permanent Threshold Shift (PTS) in harbour porpoise**. TTS and PTS onset occurs in harbour porpoise when they are exposed to levels above 153dB dB re 1 µPa_{2s} and 173dB dB re 1 µPa_{2s} (respectively), the worst-case levels of noise for excavation of the pit and recovery of the tunnel boring machine for creation of the intake and outfall pipes is 164-179 dB re 1 µPa. This level of noise would also cause TTS onset in most dolphin species. Furthermore, permanent and temporary threshold shifts have often been the primary consideration for regulatory measures and are more likely for animals that may be reluctant to leave an area, but stress (Rolland et al. 2012⁹), effects of acoustic 'masking' (Todd et al. 1996¹⁰, Clark et al. 2009¹¹, Nielsen et al. 2012¹², Gomez et al. 2016¹³) and displacement (

⁶ https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0082.01.ENG&toc=OJ:L:2018:328:TOC

⁷ <https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/eis-chapters.pdf>

⁸ <http://archive.jncc.gov.uk/protectedsites/sacselection/n2kforms/UK0030399.pdf>

⁹ Rolland RM, Parks SE, Hunt KE, Castellote M, and others (2012) Evidence that ship noise increases stress in right whales. Proc Biol Sci 279: 2363–2368

¹⁰ Todd S, Lien J, Marques F, Stevick P, Ketten D (1996) Behavioural effects of exposure to underwater explosions in humpback whales (*Megaptera novaeangliae*).

¹¹ Clark CW, Ellison WT, Southall BL, Hatch L, Van Parijs SM, Frankel A, Ponirakis D (2009) Acoustic masking in marine ecosystems: intuitions, analysis, and implication.

¹² Nielsen TP, Wahlberg M, Heikkilä S, Jensen M, Sabinsky P, Dabelsteen T (2012) Swimming patterns of wild harbour porpoises *Phocoena phocoena* show detection and avoidance of gillnets at very long ranges.

¹³ Gomez C, Lawson JW, Wright AJ, Buren A, Tollit D, Lesage V (2016) A systematic review and meta-analysis on the behavioural response of wild marine mammals to noise: the disparity between science advice and regulatory measures.

Dähne et al. 2013¹⁴, Thompson et al. 2013¹⁵) are increasingly recognized as important impacts that need to be considered explicitly (Forney et al., 2017¹⁶).

The EIS contradicts the shadow Habitats Regulation Assessment (SHRA) in that it states on pg. 107 that “Given that noise produced during the construction phase is not predicted to exceed thresholds for PTS onset, the sensitivity of all IEF receptors is considered negligible”, but the SHRA has given worst-case scenario noise levels for excavation of the pit and recovery of the tunnel boring machine of between 164 and 179dB dB re 1 µPa, which would indeed cause PTS in harbour porpoise and as such the North Channel SAC has been carried forward to stage two appraisal.

Cumulative levels of noise in the area have not been accounted for. The operational and ongoing noise is expected to be between 150-155 dB re: 1µPa, this would again have the ability to cause TTS in harbour porpoise. Based on the worst-case levels of noise, and the potential cumulative effects of noise in the area, **we consider that the risk of permanent injury and displacement of harbour porpoise is not in support of the conservation objectives for the site.**

Within the section on impact receptor pathways, birds have been scoped out for the construction of the intake and outfall pipes and brine discharge, despite the fact that fish have been scoped in. For *Group 3* fish species, whereby hearing involves a swim bladder or other gas volumes, it is stated that they may experience TTS and behavioural effects at individual **or population levels**. Such effects, especially at population levels would have a consequential effect on foraging opportunities for birds in the area. **The link between vital ecosystem components has been omitted.**

The EIS states that one of the reasons that this location was chosen for the intake and outfall pipes was that it was not located in the designated area of Larne Lough SPA, however, this information is now out of date. The location for the intake and outfall pipes now falls within the proposed East Coast SPA and North Channel SAC.

NIMTF also wishes to raise concerns about potential levels of noise and vibration in Larne Lough. The EIS concludes that “*The formation of the caverns under Larne Lough will take place 1,300 meters below the seabed and will not result in measurable noise emissions*” but no information has been provided to evidence this conclusion. Similarly, **the SHRA states on pg. 29. that there will be no significant noise from the construction of the gas caverns, yet no evidence for this is included.**

In relation to the brine dispersal, Appendix B Brine Modelling Dispersion¹⁷, repeatedly states that the temperature of the brine will be around 2°C above the temperature of the intake water, however **the temperature of the intake water is not stated in this document.**

¹⁴ Dähne M, Gilles A, Lucke K, Peschko V and others (2013) Effects of pile-driving on harbor porpoises (*Phocoena phocoena*) at the first offshore wind farm in Germany.

¹⁵ Thompson PM, Brookes KL, Graham IM, Barton TR, Needham K, Bradbury G, Merchant ND (2013) Short-term disturbance by a commercial two-dimensional seismic survey does not lead to long-term displacement of harbour porpoises.

¹⁶ Forney, K., Southall, B., Slooten, E., Dawson, S., Read, A., Baird, R. and Brownell, R. (2017). Nowhere to go: noise impact assessments for marine mammal populations with high site fidelity.

¹⁷ https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/app-b-brine-dispersion-modeling_0.pdf

We note that the dispersion model has not accounted for storm surges, in which dilution may be greater but dispersion would also increase. Furthermore, the updated brine dispersion report states that *“During the neap period, a significant increase in surface current speed was depicted by the measured data at M2. Examination of the recorded wind data indicates that relatively strong winds were experienced during the neap tides and as wind effects were not included in the hydrodynamic model simulations, any effect on the current field is not reflected in the model output”*.¹⁸ Within the Environmental Monitoring Programme¹⁹ storm conditions have been accounted for in order to choose a suitable mooring for the brine monitoring buoys, due to *“The sea conditions likely to be experienced at the site during storm conditions are expected to be extremely harsh”*, yet the same was not considered for the brine model. Given the projected increased storminess of the Irish Sea²⁰ in the coming years, and that the brine outfall pipe will be in operation for four years, we find it unacceptable that storm surges have not been included in the brine dispersion model.

The brine discharge will not just occur during the four years assessed in the project application. The documentation states that brine discharge will likely be required for maintenance purposes. This will have a further impact on the amount of time required for the seabed habitat and associated species to recover.

With regards to the design of the brine outfall pipe and the intake pipe, there are discrepancies between what has been proposed in the Construction Method Statement (CMS)²¹ and the Marine Environmental Conditions Update report²². The CMS states that 100 – 150m of outfall pipe will be laid on the seabed, while the SHRA states that the pipe will be approximately 40m in length. Rock mound protection will also be laid adjacent to the diffuser heads (3m wide). Using the figures contained in the CMS the direct seabed impact area will be 300 - 450m² (100 or 150m x 3m). The SHRA assessed the direct seabed impact area as 120m² (and later in the document as 126m²). This is a significant discrepancy within the application as the impact of a larger construction footprint (300 – 400m²) has not been assessed within the SHRA.

Mitigation and Monitoring

We note that Chapter 14 of the EIS provides a summary of the potential impacts and proposed mitigation measures that would be employed during construction and operation to reduce or eliminate these impacts. Section 10 (Mitigation Measures and Conclusions) of the Marine Environmental Conditions Update is “a summary of additional mitigation measures and monitoring requirements that have been proposed within this Marine Environmental Conditions Update Report”.

NIMTF considers that the proposed mitigation measures for disturbance and displacement are not appropriate to mitigate against potential impacts that the activity may have on harbour porpoise (TTS and PTS onset). The use of Marine Mammal Observers (MMOs) are the only

¹⁸ https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/app-b-brine-dispersion-modeling_0.pdf

¹⁹ <https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/marine-environmental-conditions-update.pdf>

²⁰ A Summary of the State of Knowledge on Climate Change Impacts for Ireland - EPA Research Report (2010 - 2016)

²¹ <https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/updated-2019-application.pdf>

²² <https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/marine-environmental-conditions-update.pdf>

proposed mitigation measure. **We consider that the use of MMOs to detect animals is a monitoring measure, not a mitigation measure.** The application does not propose submitting noise data to the UK noise registry; given the potential impact of the noise and the lack of existing data on HDD drilling, this measure should have been included.

NIMTF wish to draw attention to the Summary of Impacts and Mitigation Measures (contained within the EIS) specifically: *Impacts on commercial fish for crustaceans and shellfish through damage to stocks either by mortality or evacuation of the area.* The proposed mitigation measure: *“The use of sentinel organisms within the mixing zone and at control sites may be effective in monitoring the impact of the brine discharge on commercially important species. Lobster, crab and scallops could be held in pots or alternative devices to monitor mortality rates at various distances from the outfall in comparison to control sites; trigger levels may be based on baseline mortality rates established at the control sites. These experiments may also facilitate a more detailed assessment of organism health in the area surrounding the discharge”.* **We find this proposed mitigation measure alarming and unacceptable.** Firstly, holding lobster, crab and scallops in pots and subjecting them to varying levels of brine raises significant ethical concerns and secondly, studying for mortality rates is an isolationist approach given that other short term / long term physiological effects may occur.

Policy Context

In the absence of a marine plan, the UK Marine Policy Statement (UK MPS) is the framework for taking decisions affecting the marine environment. The vision for the marine environment is **“clean, healthy, safe, productive and biologically diverse oceans and seas”** and the following high-level marine objectives apply:

- Promote sustainable economic development;
- Enable the UK’s move towards a low-carbon economy, in order to mitigate the causes of climate change and ocean acidification and adapt to their effects;
- Ensure a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets; and
- Contribute to the social benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues.

We note that a key principle of the UK MPS and marine plans is to promote compatibility and reduce conflict, however, **it is clear that there is a direct conflict between the proposed project and the conservation objectives of the North Channel SAC.**

The UK MPS also states that: *“As a general principle, development should aim to avoid harm to marine ecology, biodiversity and geological conservation interests (including geological and morphological features), including through location, mitigation and consideration of reasonable alternatives.”* The location and consideration of reasonable alternatives contained in the EIS are significantly outdated.

We also wish to draw your attention to the following statement from the UK MPS relating to gas storage ***“Use of existing storage features and infrastructure is likely to result in negligible additional impacts although the production of salt caverns may result in significant local impacts and interference with other users of the area”.***

We recognise that when decision makers are examining and determining applications for energy infrastructure the national level of need for energy infrastructure, as set out in the Strategic Energy Framework is taken into account (this includes security of supply), however the current NI Strategic Energy Framework is 10 years old and as such the Department for the Economy is developing a new Energy Strategy to replace the existing Strategic Energy Framework. The call for evidence document for a new Energy Strategy recognises that the context for energy has changed substantially since the 2010 Strategic Energy Framework (SEF) was published. In June 2019, the UK became the first major economy to commit to a 100% reduction in greenhouse gas emissions by 2050. This ‘net zero’ target represents a significant step-change in the commitment to addressing the climate crisis. Furthermore, consultation on a new environment strategy for Northern Ireland is currently taking place and the Northern Ireland marine plan remains to be implemented. **NIMTF considers that a decision should be made on the proposed project with respect to the above policies and policy frameworks which have yet to be implemented.**

The Northern Ireland Assembly has recently declared a climate emergency (February 2nd, 2020) and as such we believe that future policy and planning decisions should be taken within this context. **NIMTF considers that caution must be taken in approving new gas infrastructure projects.**

Finally, it is clear that the nature of the proposed project is cross cutting and as such we believe that **the decision on this licence application should be made by the Northern Ireland executive.**

If you have any queries on the NIMTF response, please do not hesitate to contact the Northern Ireland Marine Task Force Officer.

Yours sincerely,
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