



Department for
Energy Security
& Net Zero

ES/2022/009

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Dear [REDACTED]

**THE OFFSHORE OIL AND GAS EXPLORATION, PRODUCTION, UNLOADING
AND STORAGE (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS
2020**

NOTICE UNDER REGULATION 12(1)

Hynet Carbon Dioxide Transportation and Storage Project - Offshore

The Offshore Petroleum Regulator for Environment and Decommissioning (“OPRED”) acting on behalf of the Secretary of State for Energy Security and Net Zero (“the Secretary of State”) is currently considering the Environmental Statement (“ES”) in relation to the above project. Liverpool Bay CCS Limited is hereby required to provide further information in relation to the following:

General Comments:

1. Reg 12(1) letter dated 1 July 2024 – comment 1

OPRED's previous comments in Regulation 12(1) letter dated 1 July 2024, related to inaccuracies, inconsistencies and incorrect information within the Environmental Statement particularly with respect to the consenting regime. Attention is drawn to errors in the application; for example – NTS Section 2.10.2 North Sea Transition Authority – Applications for Carbon Dioxide Storage Permit, and Pipeline Works Authorisation. Representations should be made to the NSTA, and not OPRED as specified (BST@energysecurity.gov.uk). It is also noted that NTS - Section 1.2.2- Consenting Regime - Table 1.1 omits OPRC regulations from the drilling section, the Pipelines does not mention that OPRED have any

responsibility and in Volume 1: Sec 2.3.2: refers to NSTA as the regulator; Table 2.1 has omitted to refer to Safety Cases, OPEP & Well Notifications. Please ensure that this comment is acknowledged and addressed as required. OPRED also requests that all sections within the application clearly identifies the appropriate Regulatory bodies when providing this information.

2. Reg 12(1) letter dated 1 July 2024 – comment 2

OPRED's previous comments in Regulation 12(1) letter dated 1 July 2024, requested a clear delineation of the boundaries of the project. Whilst it is recognised that Figure 2.1 provides detail on the development area in relation to the Marine Plan region, there is no indication/detail of the Welsh/English territorial boundary. Figure 2.1 provides details for existing infrastructure. Please revise to include the location of proposed new infrastructure, including pipelines and cables and their proximity to the Welsh/English boundary. In addition, please provide a clear map of the project with respect to all the relevant Marine Protected Areas (MPA's) and the Welsh/English boundary.

3. Reg 12(1) letter dated 1 July 2024 – comment 3

OPRED acknowledges reference to the multiple figures which are useful when providing a broad overview of the location of the development in relation to the MPA's. To carry out an effective assessment, a more detailed illustration of the proximity of activities to relevant MPA's is required rather than in relation to the development as a whole. For example, the removal/replacement of topsides and the installation of a new Platform at Douglas in relation to the MPA's protected areas. Individual activities should clearly be identified and assessed against each relevant protected site. Please provide details on the following:

- The ES should clearly contain information about what activities will be undertaken and where.
- Each existing installation should further detail if it is located within or the distance to the MPA's, the distance to coastline, the distance to closest median line and water depth at site.
- New installations should have the same details as above, along with any known information about how it will be installed. Any details unknown at this stage in the process, should state that the information will be provided within the relevant site-specific application.
- All pipelines should be identified (PL number given), state the start and end of the pipeline, the length of the pipeline, pipeline contents and if it crosses any median lines or conservation sites.
- Any cables should be provided with the same details as pipelines (as above).
- Existing wells that are proposed to be used for the project should be clearly identified, including current status, and what they previously produced.
- Proposed new wells should be clearly identified, including whether they will be platform wells or subsea tie backs. Their identifier (well number for example) if known should be detailed. Please provide their location and whether they are to be drilled within or in close proximity to a MPA.

- Please include a figure illustrating where infrastructure (new and existing) is in relation to the different zones (intertidal/subtidal) (which have been used in Chapter 7), so that this can be put into context for the whole project.

4. Reg 12(1) letter dated 1 July 2024 – comment 4

OPRED welcomes the additional drawings provided.

With regards to OPRED's previous comment in Regulation 12(1) letter dated 1 July 2024 regarding National Policy Statement, the use of the overarching NPS for Energy (NPS EN-1), NPS for Renewable Energy Infrastructure and (NPS EN-3) NPS of Electricity Networks Infrastructure (NPS EN-5) and how these relate to the content of the information presented within the ES is unclear. Similarly, the references to Guidance, much of which is applicable to offshore renewables developments and cable laying appears to have negated the requirement to provide the necessary information on the elements of the project that relate to the development and reconfiguration of existing offshore oil and gas infrastructure for the HyNet CCUS project. Please clarify what assessment is being made for the nearshore infrastructure (which is the domain of NRW) and what relates to the offshore element (pipelines and oil and gas installations).

Please provide details of the marine plan objectives and how these align with the proposed development activities outlined in the ES.

5. Reg 12(1) letter dated 1 July 2024 – comment 5

Details provided in response to OPRED, regarding the description of the proposed development plans as outlined in ES Chapter 3 are acknowledged. Please provide further details on each individual location i.e. Lennox, Hamilton, Hamilton North, new Douglas and the location wells to be drilled if these are not drilled from the location of the NUIs (or a MODU located next to NUI). The impact of drilling any planned wells should be included, with details of the drilling rig to be used, and any stabilisation material required. Any of the wells that are to be repurposed will also need to be assessed, along with an assessment of new topsides that are required for the NUIs.

6. Reg 12(1) letter dated 1 July 2024 – comment 6

OPRED acknowledges the provision of additional information to support the response to the request to improve the resolution of figures within the ES. Please address OPRED's remaining concerns that Liverpool Bay CCS Limited have chosen not to consider the Liverpool Bay SPA in the study on the basis that there are no designated benthic fish or marine mammals within this site. OPRED would highlight the requirement of the Conservation Objectives to consider the attributes relating to the supporting habitats and processes associated with the designated feature(s) of the site.

7. Reg12(1) letter dated 1 July 2024 – comment 11

It is stated in the Regulation 12(1) response letter 2nd August 2024 (in relation to the Regulation 12(1) letter dated 1 July 2024, that "*Marine works are very unlikely during this bad weather window, thereby avoiding disturbance to over-wintering birds.*" On reviewing the schedule, it is indicated that work on the Lennox, Hamilton North and Hamilton Main Platform wells will take place during the overwintering period. Efforts should still be made as a matter of best practice to minimise and mitigate disturbance to the receptor species, and Liverpool Bay CCS Limited are advised that disturbance should be minimised through the implementation of a Vessel Management Plan (VMP) and secured as a condition in any marine licence or permission granted as appropriate. Please clarify when this VMP will be delivered. There is also no information regarding whether any geophysical surveys will be undertaken during the overwintering period. Please provide this information as appropriate. In addition, where are the construction and maintenance vessels likely to sail from?

8. Reg 12(1) letter dated 1 July 2024 – comment 12

It is acknowledged that within the response provided to OPRED on 2nd August 2024 that there is reference to the conservation objectives. Please provide further details of how the impacts have been addressed in relation to the conservation objectives of each MPA. Please note the latest advice was published in 2023 <https://publications.naturalengland.org.uk/publication/3236717>. Please note that the Appropriate Assessment will be assessed against the conservation objectives and targets outlined within the advice package of each relevant MPA.

It has also been outlined that most of the works will take place from 20th March to 21st October. This only appears to apply to works being carried out for cable laying, installation of the new Douglas Platform and topsides work. Other activities including drilling of wells will take place within the overwinter period and any mitigation measures for the work to be undertaken should therefore be provided. Please advise how far in advance of the work commencing would Liverpool Bay CCS plan to engage and submit a Vessel Management Plan and which works will this cover?

OPRED acknowledge that reference to the species and the buffer used for the assessment (Table 8.9). An illustration of the displacement impacts would be beneficial.

9. Reg 12(1) letter dated 1 July 2024 – comment 13

It is noted that the applicant has described how many of the embedded mitigation measures sit at the top of the Mitigation Hierarchy, are designed to 'avoid' or 'reduce' environmental effects and are directly incorporated into the design of the Proposed Development. However, in many instances it is unclear on how the measure will help to mitigate the potential issue. For example, in Table 13.8 it is implied that fugitive emissions will be monitored through a Leak Detection and Repair Programme, however, it is unclear how this programme will stop the

potential for fugitive emissions to occur. Similarly, it is unclear how the recycling of materials where practicable during decommissioning could be a mitigation measure. Please expand on the measures outlined and their appropriateness when assessing the environmental impact.

10.Reg12(1) letter dated 1 July 2024 – comment 16

Engagement with NRW to agree the timings of the work are acknowledged. The additional information provided for red-throated divers which can exploit a larger area is also acknowledged. Please provide further clarity on the impact of little terns and what the colony-level effects are.

11.Reg12(1) letter dated 1 July 2024 – comment 20

Please provide clarity on the following comments regarding ornithology relating to the development:

- Liverpool Bay CCS Limited's commitment to carrying out the works within the period from 20th March to 21st October is welcomed. It is not clear from the response whether the applicant is referring to work related to the new Douglas Platform and the cable installation and whether this includes operations due to be carried out at the Lennox, Hamilton and Hamilton North Platforms and further clarification is therefore requested.
- It is noted that JNCC have been omitted from list of consultees regarding the vessel management plan.
- Some further information provided appears to be incorrect, notably where the applicant states that "*The SNCB advice is restricted to OWF infrastructure and has no best practice protocol for vessel movements in regard to Red-Throated Diver*". Please clarify the best practice protocol advised for OWF infrastructure.
- It is noted that the applicant is planning to carry out work on offshore platforms throughout the winter period. How will potential disturbance and displacement of the Red-Throated Diver and Common Scoter be reduced during the sensitive winter period?
- The vessel management plan (VMP) should holistically/strategically consider vessel movements across the different parts of the project i.e. during the construction phases of the HYNET development area. This should also include an estimation of any ongoing maintenance and support work.
- Movements in regard to Red-Throated Diver. Please provide further clarity on the best practice protocol advised for OWF infrastructure. It is noted that the applicant is planning to carry out work on offshore platforms throughout the winter period and further reassurance requested on how any potential disturbance and displacement of the Red-Throated Diver and Common Scoter will be reduced during the sensitive winter period.

- It is noted that that the information in the response provided by Liverpool Bay CCS Limited on 2nd August 2024 contradicts what is stated in the previous response which states “Overall, the Applicant has a 'weather window' that we are trying to avoid from around 21st October to 20th March each year, as the sea-state can make it dangerous to carry out heavy lifts, drilling, and cable laying with vessels alongside the platforms during this period. This means nearly all works will be carried out from the end of March to mid-October. It is therefore highly likely that all our works will be completed outside of the winter period.” The schedule provided indicates that work will be carried out on the offshore platforms during the sensitive winter period. Please provided further information on how any potential disturbance and displacement of the Red-Throated Diver Common Scoter will be reduced during the sensitive winter period.
- Please clarify that it is work outside of the established 500m zones that will be restricted to non-winter months i.e. heavy lifts and cable laying.

12. Reg 12(1) letter dated 1 July 2024 – comment 23

The Maximum Design Scenario does not provide the information requested for each individual site. For example, the impacts at Lennox will be different to those at Douglas. Please provide further information relating to the impacts of the different phases of the project to each site.

13. Reg 12(1) letter dated 1 July 2024 – comment 24

Additional information provided regarding the environmental baseline surveys is acknowledged and an analysis of the risk from legacy wells has been provided within the Monitoring Plans which refers to the Containment Risk Assessment. Please provide further information on the potential gas seeps and potential leakage from legacy wells:

- The duration over which this risk has been assessed.
- Any specific risks arising from legacy wells at the offshore platforms.

14. Reg 12(1) letter dated 1 July 2024 – comment 25

Please include any other oil and gas activities within Liverpool Bay any potential CCUS activities into all relevant sections where cumulative impacts are assessed.

15. Reg 12(1) letter dated 1 July 2024 – comment 26

Liverpool Bay CCS Limited has screened out oil and gas activities within the development area, however, OPRED requests further details of which activities were scoped out and why.

16. Reg 12(1) letter dated 1 July 2024 – comment 28

It is acknowledged that general information relating to the assessments and conclusions on the impacts of the proposed works on European Sites and Species has been provided in the RIAA and Volume 2, Chapter 7: Marine Biodiversity. It is unclear to OPRED where the relevant sections are which provide the detailed information requested. Please clarify.

Non-Technical Summary Comments

17. Section 1.3.2. Reg 12(1) letter dated 1 July 2024 – comment 31

Further information regarding the timing of the topsides replacement and removal has been provided. OPRED understand that the Hamilton Main and Hamilton North jacket will be without a topside for less than 24 or 48 hours. Please provide detail on the logistics of these operations regarding the requirement for specialist Heavy Lift Vessels and support vessels.

18. Section 1.3.5. Reg 12(1) letter dated 1 July 2024 – comment 33

Please clarify how the scenario described in stage 2 regarding the reservoir pressure in the offshore transportation network has been assessed. Please also confirm if a risk assessment has been undertaken to cover the impact of the existing offshore platform infrastructure and if not, please provide a reason why.

What type/source of heating installation is to be installed? If the heating system is provided by a combustion plant, please provide the type of plant, the fuel to be used and the thermal rated input.

19. Section 1.3.6. Reg 12(1) letter dated 1 July 2024 – comment 34

It is stated in the response provided to OPRED on date 2nd August 2024 that "*The execution of the monitoring plan could highlight possible scenarios where significant irregularities and non-conformance issues might occur.*" Please clarify what this means.

It is also noted that "*Test applications on CO₂ have been performed on pilot scale facilities and a demonstrative application of pilot project is planned for 2024*". Please confirm if the Corrective Measures Plan covers scenarios where there could be loss of containment and when the pilot is scheduled to take place and provide details of the outcomes from the tests and the data.

20. Section 2.1. Reg 12(1) letter dated 1 July 2024 – comment 36

It is noted that Liverpool Bay CCS Limited have chosen not to consider the Liverpool Bay SPA in the study on the basis that there are no designated features relevant to the Marine Biodiversity Section. OPRED would refer the applicant to the requirement of the Conservation Objectives to consider the attributes relating

to the supporting habitats and processes associated with the designated feature(s) of the site. It is not clear from the Regulation 12(1) letter dated 1 July 2024 whether an assessment supporting habitats and features has been made elsewhere within the ES. The Liverpool Bay SPA must be included in figures and tables to recognise the presence of the SPA within the development area, in order to put the SPA into context with the location of the activities.

21. Section 2.1. Reg 12(1) letter dated 1 July 2024 – comment 37

OPRED acknowledges that an assessment of the colonisation of hard substrate has been provided within Chapter 7 - Table 7.21. The impact has been concluded as 'a *minor significance*' with only small proportion of the ENI Development Area affected (0.01%). Whilst this may be a very small proportion of the development area in its entirety, it is possible that although the area may be small, if this is within a sensitive area, the impact may be large. Please clarify how the conclusions have been reached, highlighting the impact that the different elements of the project will have on habitats.

22. Section 2.3.1. Reg 12(1) letter dated 1 July 2024 – comment 41

OPRED acknowledge the use of 315km as the mean maximum foraging range for gannet. It is noted however, that Volume 1, Chapter 3 does not detail the seasonal impacts to birds in relation to the proposed activities, and the cumulative impact to birds throughout the year. Please provide further details.

Table 8.34 provides a summary of the available data for the Cumulative Effects Assessment (CEA). Please include distances from the development. It is noted that no oil and gas activities have been included within this table as they have been scoped out, however, it is noted that oil and gas activities and gas storage licence area fall within the same distance range as some of the projects that have been included within this table. Please clarify why oil and gas activities have not been included within the assessment.

23. Section 2.3.2. Reg 12(1) letter dated 1 July 2024 – comment 42

Please provide further clarity on whether activities have been considered in relation to bird distribution and disturbance or noisy activities, particularly with respect to any cumulative assessments.

Please include or refer to current oil and gas activities (including decommissioning) or gas storage license activities into the cumulative impact assessments within the ES. Useful information can be found on the NSTA website, for example <https://www.arcgis.com/apps/webappviewer/index.html?id=cb3474a78df24139b1651908ff8c8975>.

Should any data regarding applications have become available during the ES process, these should also be referred to, for example data and information that is available on the Planning Inspectorate website.

24. Section 2.8.1. Reg 12(1) letter dated 1 July 2024 – comment 45

It is understood that the subtidal habitats with the greatest potential for sequestered carbon would be submerged ancient woodlands and seagrass and that neither of these are present within the development area. It is unclear how this relates to a description of the existing baseline. Please clarify. Please also confirm that the Douglas complex will be decommissioned prior to the CCUS project commencement. If this is the case, will the baseline substrate (subtidal habitat) have time to recover prior to commencement of CCUS work? If not, please clarify your response describing why the baseline emissions are zero.

Comments on Volumes and Chapters

Volume 1 Chapters 1-5: Introductory Chapters

Volume 1 – Chapter 1: Introduction

25. Section 1.3.3. Reg 12(1) letter dated 1 July 2024 – comment 50

Further information regarding the major accidents and disasters arising from a CO₂ release which have been scoped out of the assessment is required. Similar information was also requested within Comment 79 and Comment 116 from the 1st July 2024 Reg12(1) letter:

- Currently only oil spill modelling results are included in the assessment. Under the EIA 2020 Regulations the environmental impact from of a worst-case diesel release should be included.
- Only 4 tonnes of CO₂ could be released from a legacy well. Please justify why the release can only be 4 tonnes. Chapter 13 Page 17/34 states '*Any material amount of CO₂ leakage is therefore considered to be possible in an accident or disaster scenario. However, such an event is considered highly unlikely (given the above designed-in protection).*' Please confirm the estimated volume of an unconstrained leak prior to any mitigation. What is the environmental impact of such an accident? Section 3 of the Monitoring Plan lists leak paths, please provide the probability and impact assessment of these paths.
- Please confirm whether the leakage rate of 4,000 te of CO₂ for well abandonment is per well or for all wells (including sentinel and monitoring wells).
- Assuming the pipeline will be shut-in what is the maximum pipeline release volume?
- What are the environmental consequences of a pipeline release?
- Please clearly detail the mitigation measures. For example, it is not clear if the pipeline can be shut in in the reverse direction.

26. Section 1.8 - Table 1.2. Reg 12(1) letter dated 1 July 2024 – comment 51

Additional information regarding underwater noise modelling is acknowledged. Please clarify what type of VSP will be undertaken. For example will this be zero-offset VSP, offset VSP, walkaway VSP, walk-above VSP, salt-proximity VSP, shear-wave VSP, and drill-noise or seismic-while-drilling VSP.

Volume 1 – Chapter 2: Policy and Legislative Context

27. Section 2.4.2. Reg 12(1) letter dated 1 July 2024 – comment 52

Further information regarding the 4-phased approach to the project as outlined in the Storage Permit Application is acknowledged. However, further information is requested regarding the geophysical monitoring and confirmation on whether the surveys outlined will take place subsequent to the removal and replacement of the platform topsides. Please also confirm when in the lifecycle of the project the placement and monitoring of the micro seismic network will be carried out and whether there will be any overlap with any of the current work that is being undertaken at the Hamilton Main, Hamilton North, Douglas and Lennox Platforms.

Volume 1 – Chapter 3: Proposed Development Description

28. Section 3.2. Reg 12(1) letter dated 1 July 2024 – comment 58

Reference is made to LBA CCS Ltd_ES_Appendix F_CEA_NRW_FINAL. Please clarify where the relevant information is presented within this document.

29. Section 3.3. Reg 12(1) letter dated 1 July 2024 – comment 60

The inclusion of a flow diagram has been provided. Please confirm where the end point of CO₂ flow will if it cannot be injected. Please provide a P&ID diagram to put the measurement and location points into context.

30. Section 3.3.5.3. Reg12(1) letter dated 1 July 2024 – comment 62

Within your underwater noise impact assessment please clarify if “flotel” is classed as a support vessel/jack-up vessel or standalone vessel.

31. Section 3.3.6. Reg 12(1) letter dated 1 July 2024 – comment 64

Section 3.3.7. refers to geotextile bags, however, it is unknown if these are biodegradable. Please confirm that grout bags to be used throughout the project will be biodegradable.

32. Section 3.3.7. Reg 12(1) letter dated 1 July 2024 – comment 67

With regards to the installation of new cables please confirm the future intentions for the cables once they are to be decommissioned. For example, are these likely to be left *in situ* or partially or completely removed.

33. Section 3.3.7. Reg 12(1) letter dated 1 July 2024 – comment 68

Please confirm that any grout bags used will be biodegradable.

34. Section 3.4. Reg 12(1) letter dated 1 July 2024 – comment 69

References to the environmental effects of wells to be drilled are acknowledged from the response dated 2nd August 2024 to OPRED. However, please provide further information on the following:

- **Chemical management CCS:**
Please provide details of the different types of chemical groups to be used and discharged over the life of this development including from; drilling of wells (injection, monitoring and sentinel wells), pipelines (commissioning the pipelines for CO₂ transport), commissioning new topsides. Please confirm that Liverpool Bay CCS Limited has considered the chemical management relating to the switch from the extraction of oil and gas to the storage of CO₂ and asset integrity and has chemical management in place for issues such as hydrates, scales, and other chemical precipitates in wells preventing injection. Please detail how corrosion and erosion will be managed and confirm that any chemicals used and discharged will be low risk to the environment.
- **Legacy Wells:**
Please provide potential impact and risks from platform legacy wells. Whilst these may pose a medium risk to the environment from potential leaks, please provide further details on what sort of risk may occur, over what period of time the risk has been assessed for and what impact there may be on the environment and specific sensitivities, noting that the Lennox field is only 2 miles from the NW coast of England.
There is the requirement to abandon a significant number of wells across the project area. Please confirm that all wells will be abandoned to the correct standards prior to any work that will be carried out as part of the CCS development and that there will be no immediate risk to the environment from the P&A wells.
- **Atmospheric Emissions:**
Please provide details of potential atmospheric emissions associated with the drilling of the wells.
- **Environmental Footprint:**
Please provide the potential volume of material to be used, and its footprint, that may be required for any rig stabilisation (including contingency) associated with the placement of rigs that will carry out the works. Further details of approximate anchor patterns and footprint must also be confirmed.

35. Section 3.4.4.1. Reg 12(1) letter dated 1 July 2024 – comment 71

Please confirm that the proposed schedule time of three months will also include the P&A of Douglas wells and subsea infrastructure.

36. Section 3.5.1.3. Reg 12(1) letter dated 1 July 2024 – comment 76

Please confirm if any other potential leak points will be monitored at offshore assets other than those that have been considered to be high risk at the Lennox Platform.

Further clarity on the identification and monitoring for potential leaks is required:

- With reference to the monitoring plan, please confirm how leaks at high-risk locations such as fault and fracture and other high risk locations will be identified. The current monitoring plan only covers EIA baseline survey locations and assets where the drilling of new wells will take place.
- What type of legacy well is being selected to detect leaks in terms of highest risk from the list of risks identified in section 3 of the Monitoring Plan.

Volume 1 – Chapter 4: Site Selection and Consideration of Alternatives

37. Section 4.3. Reg 12(1) letter dated 1 July 2024 – comment 77

It is noted that the replacement topsides will be larger than those being replaced as outlined in comment 61 of the 1st July 2024 Reg12(1) letter, please confirm that whilst larger in size the overall weight will be significantly less.

It is understood that there remains the need to decommission and remove all infrastructure either at the end of the oil and gas phase or at the end of the CCS phase. It is unclear how structurally changing the project to CCS could be considered as being beneficial to the environment, given that additional infrastructure is required. Please provide details on why one type of project is better than the other environmentally and economically.

Volume 1 – Chapter 5: Environmental Impact Assessment Legislation and Guidance

38. Section 5.8. Reg 12(1) letter dated 1 July 2024 – comment 79

OPRED request further information regarding a number of topics that have been scoped out of the assessment:

- a) It is noted that the assessment for major accidents and disasters arising from a CO₂ release has been undertaken using mitigation. An assessment of the environmental impact of a major CO₂ release also needs to be carried out without any mitigation in place. Mitigation measures which will then be in place should then be outlined with the residual risk assessed as per the EIA requirements to assess accidents and disasters. Examples of assessments

include 'Assessment of Subsea Ecosystem Impacts - Technical Study Report No. 2008/8 March 2009, International Energy Agency GHG R&D Programme paper, Carbon Dioxide Major Accident Hazard Awareness June 2023, AIChE, Deep Trouble, The Risks of Offshore Carbon Capture and Storage, November 2023, Centre for International Environmental Law. Please amend this assessment.

- b) The environmental impact of a diesel release including the accident/ disaster assessment under EIA (Regulations 2020) must be assessed. It is noted that only spill modelling results have been included.
- c) Please explain why only 4 tonnes of CO₂ would be released from a legacy well and why this is restricted to this volume? It is noted that Chapter 13 Page 17/34 states '*Any material amount of CO₂ leakage is therefore considered to be possible in an accident or disaster scenario. However, such an event is considered highly unlikely (given the above designed-in protection).*' What is the volume of an unconstrained leak prior to any mitigation and what is the environmental impact of such an accident? Section 3 of the Monitoring Plan has listed the most likely leak paths. Please confirm, the probability of a leak occurring from any of these locations and the environmental impact that may result.
- d) What is the maximum pipeline release volume prior to it being shut in, and what are the potential environmental consequences should a pipeline release occur?
- e) Please clearly detail any mitigation measures, for example, it is unclear if the pipeline can be shut in, in the reverse direction.

39. Section 5.8 - Table 5.3. Reg 12(1) letter dated 1 July 2024 – comment 82

Please outline what course of action will be taken should any free spans occur during the CCUS project lifetime.

Volume 2 - Chapters 6 - 14

Volume 2 - Chapter 6: Physical Processes

40. Section 6.7.12. Table 6.8. Reg 12(1) letter dated 1 July 2024 – comment 86

Whilst it is recognised that the Liverpool Bay SPA is designated for birds, any impacts due to Suspended Sediment Concentration (SSC) plumes and associated sediment deposition during cable laying, sediment disturbance from rig placement or sediment deposits related to drilling activities, may have an impact on birds by impacting prey availability. Please provide an assessment on these potential affects. The Liverpool Bay SPA must be recognised and referred to within section 6.7.12 and included within Table 6.8. OPRED would refer the applicant to the requirements of the Conservation Objectives to consider the attributes relating to the supporting habitats and processes associated with the designated feature(s) of the site.

41. Section 6.9. Reg 12(1) letter dated 1 July 2024 – comment 87

Technical Note Physical Processes Section 1.4 states that “*The proposed platform at Douglas consists of four legs c. 2 m in diameter at a spacing of 17 m. Given the diminutive nature of this structure compared to neighbouring wind turbine structures for which published information is available, the impacts on physical processes would be negligible. Installation will be undertaken by pile driving with limited potential to mobilise seabed sediments and increase SSC.*” OPRED requires an assessment of the impacts of the project outlined within the ES. Impacts from activities such as the installation of the new Douglas installation on the offshore physical processes must be considered in more detail.

42. Section 6.11. Reg 12(1) letter dated 1 July 2024 – comment 89

It is noted that within Volume 3: Chapter 6 Physical Processes Section 6.11.1 and Technical Note Physical Processes Section 1.4, that details relating to the release of drill cuttings has been included, however, this infrastructure/activity has been scoped out of the assessment. It is noted that the plume extends 8 km to the east and west and that the average deposition at the drill site can be up to c.30 mm. Please expand on the justification on why this has not been included within the assessment.

43. Section 6.11. Reg 12(1) letter dated 1 July 2024 – comment 90

Technical Note Physical Processes Section 1.4 – Table 1-2 Scope of Activities and Physical Processes Assessment. It is noted that this table scopes out a number of development activities, including the installation of a new Douglas CCS platform and repurposing and installation of new sections of pipelines. Given the nature and status of the project, OPRED would not consider the installation of a new platform or the installation of new pipeline sections to be insignificant enough to be scoped out of the assessment. The ES does not provide enough detail on how pipelines will be repurposed and whether this will require any physical intervention, it is therefore unclear if this can be scoped out of the assessment. Please provide further information of the impacts from activities such as the installation of the new Douglas installation on the offshore physical processes.

44. Section 6.11.2. Reg12(1) letter dated 1 July 2024 – comment 94

The provision of information regarding an assessment that supports the statement that the seabed will accommodate cable burial to the required depth is welcomed, however, limited information on the overall impact of cable protection has been provided. It is recognised that details of the anticipated volumes of protection are provided in Chapter 3, however, the assessment of these in Chapter 6 appears to be limited. Please provide details of the extent of the impacts which should also be put into context with any protected sites.

45. Section 6.11.2.2. Reg12(1) letter dated 1 July 2024 – comment 96

Please confirm if Liverpool Bay CCS Limited has any plans for contingency deposits should any cables become exposed during the operation and maintenance phase.

46. Section 6.12.1. - Table 6.16. Reg 12(1) letter dated 1 July 2024 – comment 100

Table 6.10 and Impacts Scoped Out of the Assessment for Physical Processes and Technical Note Physical Processes Section 1.4 – Table 1-2 Scope of Activities and Physical Processes Assessment.

The effect of each operation at each installation and for each pipeline must be assessed; only a general assessment for the complete work has been included. The sensitivity at each site varies and therefore the activities will have different impacts.

It is also noted that the tables scope out a number of development activities, including the installation of a new Douglas CCS platform and repurposing and installation of new sections of pipelines. Given the nature and status of the project, OPRED would not consider the installation of a new platform or installation of new pipeline sections to be insignificant enough to be scoped out of the assessment. The ES does not provide adequate detail on how pipelines will be repurposed and whether this will require any physical intervention. It is therefore unclear if this can be scoped out of the assessment. As has been requested in Comment 90 please provide further information of the impacts from activities such as the installation of the new Douglas installation on the offshore physical processes.

Please provide further details of where the relevant information is held in Appendix F: Cumulative Effects Assessment relating to the screening exercise.

Please confirm if all the activities associated with infrastructure and geological surveys have been included within the assessment.

47. Section 6.13.1. Reg 12(1) letter dated 1 July 2024 – comment 102

Table 6.10 and Impacts Scoped Out of the Assessment for Physical Processes and Technical Note Physical Processes Section 1.4 – Table 1-2 Scope of Activities and Physical Processes Assessment. It is noted that the tables scope out a number of development activities, including the installation of a new Douglas CCS platform and repurposing and installation of new sections of pipelines as it has been deemed that a pathway does not exist to affect physical processes as receptors. Given the nature and status of the project the installation of a new platform or installation of new pipeline sections are not considered to be insignificant enough to be scoped out of the assessment. The ES does not provide much detail on how pipelines will be repurposed and whether this will require any physical intervention, it is therefore not clear if this can therefore be scoped out of the assessment. As has been requested in Comment 90 and 100 of the 1st July 2024 Reg12(1) letter further information is requested on the

impacts from activities such as the installation of the new Douglas installation on the offshore physical processes should therefore be considered in more detail.

Modelling information provided in both the Technical Note and Appendices provide details of sedimentation and suspended sediment concentrations from cable installation and certain drilling phases. However, details of any disturbance from activities including the installation of the new pipelines, the new CCS Douglas platform which involves rig placement and associated anchor laying and seabed clearance appear to have discounted. Please clarify.

Volume 2 - Chapter 7: Marine Biodiversity

48. Section 7.3. Reg 12(1) letter dated 1 July 2024 – comment 105

It is understood that the receptors are present across jurisdictional boundaries, however, the information being requested relates to the different activities presented within the ES and how each of these relate to the Policy Plans outlined in Section 7.3. For example, the installation of the new Douglas CCS installation will take place within Welsh Waters. Which policies do these relate to and what are the marine biodiversity receptors that have been considered?

49. Section 7.9.1 - Table 7.21. Reg12(1) letter dated 1 July 2024 – comment 113

In Section 1.4 of Technical Note-Benthic MBTN01 it is stated that “The design information and maps demonstrate that although the cable crossings are located within the Liverpool Bay SPA, they are multiple kilometres from any areas of sensitive benthic habitats, such as Annex I sandbanks and reefs.” It is noted, however that the Liverpool Bay SPA has not been indicated in Figure 1.2, Location of Cable Crossing within the Eni Development Area. It is acknowledged that the cable crossing are located several kilometres from any areas of sensitive benthic habitats, however, given that the installation of the project infrastructure (including cables) has the potential to affect the supporting habitat of the Liverpool Bay SPA it is request that the SPA is included in this Figure.

50. Section 7.9.1 – Table 7.23. Reg12(1) letter dated 1 July 2024 – comment 115

Three Monitoring Plans (MP's) have been included, however please confirm that all of the MPs reflect similar information relating to the monitoring of wells. Please provide the following information:

- Please clarify if the monitoring plan will identify leaks at high-risk locations as listed in Section 3, such as fault and fracture locations and how will a leak from this high-risk location be identified?
- The current monitoring plan only covers EIA baseline survey locations and assets including wells. Ref - S5.4.3 Environmental Monitoring Sampling Details. What type of legacy well(s) will be selected to detect leaks in terms of highest risk from the list of risks identified in Section 3 of the MP?

- In Table 7: Additional techniques for Triggered Environmental Monitoring. Please demonstrate that a 5 yearly interval is sufficient to identify potential leak risks during early injection.
- It is noted that only platform and well locations have been identified for environmental monitoring which does not align with other potential risk locations. Please clarify why leaks from locations such as fracture zones are not part of the monitoring plan.
- Please clarify how any bubbles detected will be classified as being a potential leak.
- Please clarify that proposals outlined in the monitoring table are inclusive of ROV surveys and legacy well buoys. It is also unclear what proposed monitoring would inform a change in well injection and management of well integrity. please clarify.
- In Table 2 Surveillance Actions (as highlighted in the Containment Risk Assessment Document T&S system risk in the MP), please clarify what is planned post closure of the wells. Furthermore, please clarify why monitoring and sentinel wells are not considered as a leak risk.

51. Section 7.9.2. Reg 12(1) letter dated 1 July 2024 – comment 116

It is acknowledged that accidental pollution has been scoped in for benthic ecology and has been scoped out for other receptors on the basis of the approach taken for other offshore projects such as wind farms. The construction and maintenance phase of the project includes the drilling of new wells, side-tracking existing oil and gas wells, repurposing of oil and gas pipelines, removal and replacement of installations topsides all of which are considered to present a potential pollution risk. Whilst it is understood that the risks from vessels may be comparable to those of wind farm developments which regard to other activities presented within the ES, it is not deemed to be acceptable to compare the two industries. Liverpool Bay CCS Limited are requested to scope in Fish and Shellfish and marine mammals as a minimum and provide further information on the following which has also been requested as part of Comment 50 and Comment 79 from the 1st July 2024 Reg12(1) letter:

- the environmental impact of a diesel release i.e. accident/ disaster assessment under EIA. Currently only has spill modelling results.
- why only 4 tonnes of CO₂ would be released from a legacy well - what restricts it to the that volume exactly? It is noted that Chapter 13 Page 17/34 states 'Any material amount of CO₂ leakage is therefore considered to be possible in an accident or disaster scenario. However, such an event is considered highly unlikely (given the above designed-in protection).' We need to know the volume of an unconstrained leak prior to any mitigation. What is the environmental impact of such an accident? S3 of the Monitoring Plan lists leak paths but there is no probability or impact assessment from one of these paths.
- Please confirm what the leakage rate of 4,000 tonnes of CO₂ for well abandonment is referring to. Is this per well or for all wells (including sentinel and monitoring wells).
- what is the maximum pipeline release volume prior to it being shut in? It is assumed that this would be shut in?
- and what are the environmental consequences of a pipeline release?

- The mitigation measures need to be clearly set out we are not clear for example if the pipeline can be shut in in the reverse direction. Information is presented but it does not answer the question.

52. Section 7.10.2 Table 7.30. Reg 12(1) letter dated 1 July 2024 – comment 118

It is acknowledged that the sensitivity table for marine mammals (table 7.30) focusses on recoverability on a larger timescale (population and lifetime level effects), which provides a means of assessing recovery over a specific timeframe. Please provide further quantitative information regarding the timeframe for recovery from an effect.

53. Section 7.11 - Table 7.32. Reg12(1) letter dated 1 July 2024 – comment 120

Section 3 - 1.3.2 Updated Mitigation Measures states that “*Table 1.3 shows an updated table for the embedded mitigation measures adopted as part of the development. Wording that is additional to that included in Table 7.32 of Volume 2, Chapter 7: Marine Biodiversity, is set out in red*”. No red text is visible, therefore please clarify any changes.

It is also stated in this section that “*Development of and adherence to a MMMP, based on a draft MMMP submitted alongside the ES.*” It is unclear whether a MMMP has been submitted. Please clarify.

54. Section 7.12.1.1. Reg12(1) letter dated 1 July 2024 – comment 123

Whilst it is recognised that the Liverpool Bay SPA is designated for birds, however, as part of the Conservation Objectives of the site it is also a requirement to assess the appropriate attributes including the supporting habitat associated with the designated feature.

The assessment of accidental pollution to the surrounding area outlined in Table 7.21 is limited to the diesel inventory of vessels scheduled to carry out the work and no consideration has been given to an accidental release and the environmental impact of such an event associated with well blowouts during the drilling and maintenance of wells. The justification also outlines that there is a risk of pollution to water and sediment through accidental release of chemicals and during all stages of installation of the development area, it is noted however that no information has been provided within the ES on the chemical management consideration and no information has been provided on the likelihood or impact of a chemical spill. Please clarify.

55. Section 7.12.3. Reg12(1) letter dated 1 July 2024 – comment 131

The provision of a location map of proposed cable crossings in MBTN01 is acknowledged, however, from the figure it is not possible to ascertain the water depth. Please provide the information in relation to water depth.

56. Section 7.12.5. Reg12(1) letter dated 1 July 2024 – comment 132

Further details of the outputs of the temperature modelling conducted should be presented as requested in regulation 12 (1) letter dated 1 July 2024 to support the assessment conclusions as recommended by NRW.

57. Section 7.12.11. Reg 12(1) letter dated 1 July 2024 – comment 142

Please provide a figure to illustrate the overlap of noise contours with juvenile herring locations.

58. Section 7.12.11.1. Reg 12(1) letter dated 1 July 2024 – comment 144

It is stated that "*Both fleeing and stationary receptors have been presented and considered in the assessment, with the worst-case scenario (i.e. static receptors) underpinning the assessment of sensitivity.*" Please clarify where this assessment has been carried out, is it within a section of the ES or has this been provided within an additional Technical Note or Appendix.

59. Section 7.12.14.1. Reg12(1) letter dated 1 July 2024 – comment 148

The justification should be based on the impact without the use of ADDs and therefore the magnitude should therefore be reconsidered on this basis.

60. Section 7.12.14.1 & Table 7.32 and Volume 3 Section 1.8.2.1 Reg 12(1) letter dated 1 July 2024 – comment 150

As highlighted in Comment 120 of the 1st July 2024 Reg12(1) letter. Section 3 - 1.3.2 Updated Mitigation Measures states that "*Table 1.3 shows an updated table for the embedded mitigation measures adopted as part of the development. Wording that is additional to that included in Table 7.32 of Volume 2, Chapter 7: Marine Biodiversity, is set out in red*". No red text is visible, please clarify any changes.

It is also stated in this section that "*Development of and adherence to a MMMP, based on a draft MMMP submitted alongside the ES.*" It is unclear whether a MMMP has been submitted. Please clarify.

61. Section 7.13 - Tables 7.80 and 7.81. Reg 12(1) letter dated 1 July 2024 – comment 157

Please provide information on which oil and gas projects were considered in the CEA Long List.

Please include or make reference to current oil and gas activities (including decommissioning) or gas storage license activities into the cumulative impact assessments within the ES. Useful information can be found on the NSTA website, for example

<https://www.arcgis.com/apps/webappviewer/index.html?id=cb3474a78df24139b1651908ff8c8975>

Should any data regarding applications have become available these should also be referred to, for example data and information that is available on the Planning Infrastructure website.

62. Section 7.13.1. Reg 12(1) letter dated 1 July 2024 – comment 159

Benthic Subtidal and Intertidal Ecology indirectly effects the protected features of the Liverpool Bay SPA. Please include Liverpool Bay SPA and any other protected features into the assessment.

63. Section 7.13.1. Reg 12(1) letter dated 1 July 2024 – comment 160

Please include or make reference to oil and gas activities or decommissioning activities ongoing into the cumulative impact assessments within the ES.

64. Section 7.13.13.2. Reg 12(1) letter dated 1 July 2024 – comment 164

Please include both piling and UXO clearance from the application for Morgan OWF into the cumulative impact assessment along with any UXO clearance required for the HyNet project.

65. Section 7.15. Reg 12(1) letter dated 1 July 2024 – comment 169

Please provide the criteria and method used to arrive at the conclusion that the effects on marine mammal receptors are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessment presented for each individual phase or when considered in conjunction with other topics.

66. Section 7.16 - Table 7.107. Reg12(1) letter dated 1 July 2024 – comment 170

The duration of any use of ADDs will be approved post Environmental Statement process hence a 30 min ADD is not appropriate. Please amend the noise assessment to not include 30 min ADD to amend the significance of effect section with this information. This should further be applied to the cumulative assessment stage.

Volume 2 - Chapter 8: Offshore Ornithology

67. Section 8.5. Reg 12(1) letter dated 1 July 2024 – Comment 172

Please note that the Environmental Statement is a separate application that assesses environmental impacts of the project. Previously submitted information or information submitted as part of other operations by the applicant does not form part of this assessment. Within the ES, it is stated that nesting black legged kittiwakes were present on four of the six platforms however Liverpool Bay CCS Limited do does not provide more details. Please confirm which platforms the nesting birds were present on and in what numbers.

68. Section 8.7. and Section 8.7.3.2. Reg 12(1) letter dated 1 July 2024 – Comment 173 and 181

Please provide the Offshore Ornithology Baseline Technical Report referred to referred to (in Volume 3) of the Reg 12 (1) response letter dated 2 August 2024.

69. Section 8.7.2 – Table 8.6. Reg 12(1) letter dated 1 July 2024 – comment 174

It is noted that there has been a review of the Mona, Morgan and Morecambe generation assessments and that the impacts for these projects have different receptors than those that may be impacted by this project. Please clarify what receptors this refers to and what receptors are missing.

70. Section 8.7.2. Reg 12(1) letter dated 1 July 2024 – comment 177

In order for OPRED to agree with the assessment that the NUI topsides do not represent habitat loss nor are they likely to impact prey availability please provide the following information:

- Likely timescale each NUI will not have any topside
- Worst case timescale each NUI will not have any topside
- A comparison between existing topside area suitable as bird nesting & roosting habitat with the new topside area (suitable for bird nesting and roosting).

71. Section 8.7.2. – Reg 12(1) letter dated 1 July 2024 – comment 178

- a) It is stated that the “*applicant would like to confirm that no decommissioning works involving rigs and heavy lift vessels, and only limited cable laying activities will take place during the sensitive winter season*”. This sentence implies that there will not be any rigs and heavy lift vessels used for decommissioning work, and that limited cable laying operations will occur during winter season. Please clarify this sentence.
- b) It is stated that “*The applicant would also like to clarify that as a worst-case scenario the number of common scoter and red-throated diver assessed in the displacement were taken from the HiDef data using a 4km buffer around all potential works*”. Does this area include work to be undertaken on the NUI’s within Liverpool Bay SPA? If not, an assessment should also be carried out for displacement for the NUI’s.

72. Section 8.7.3 - Table 8.7. Reg 12(1) letter dated 1 July 2024 – comment 179

Please confirm the distance from each installation (Lennox, Hamilton, Hamilton North, new Douglas), and if the new cables run through any of these sites.

73. Section 8.7.3.2. Reg 12(1) letter dated 1 July 2024 – comment 180

Please provide the Offshore Ornithology Baseline Report in order for OPRED to provide any further comments.

74. Section 8.7.3.2. Reg 12(1) letter dated 1 July 2024 – comment 181

Please provide the Offshore Ornithology Baseline Technical Report referred to referred to (in Volume 3) of the Reg 12 (1) response letter dated 2 August 2024.

75. Section 8.7.4 - Table 8.9. Reg 12(1) letter dated 1 July 2024 – comment 183

Table 8.9 details identification of species taken forward to the displacement assessment. Some of the offshore installations and subsea infrastructures are located in SPA's however this does not appear to have been considered within this section and table. For example, Lennox NUI is located in Liverpool Bay SPA and the topsides will be removed and replaced. This appears to not have been considered. The table considers the installation of cable routes, Construction and decommissioning and Operational phase of Douglas platform. Please amend this table as required.

76. Section 8.7.4.1. Reg 12(1) letter dated 1 July 2024 – comment 184

Historic displacement of seabirds is not required however assessment of displacement on the complete CCUS project is required. Please amend this section as appropriate.

77. Section 8.7.4.2. Reg 12(1) letter dated 1 July 2024 – Comment 185:

This is not consistent with Chapter 3 Table 3.11 that shows drilling activities to be undertaken during the sensitive season. Please clarify this.

78. Section 8.7.4.2 - Table 8.10. Reg 12(1) letter dated 1 July 2024 – Comment 187

Please provide the detail for how these figures were calculated.

79. Section 8.8.1 Table 8.16. Reg 12(1) letter dated 1 July 2024 – Comment 189

- In your response to the Reg12(1) letter dated 1 July 2024 it is stated that the number of vessels for construction, operation and maintenance and decommissioning stages are detailed in table 8.16. The number within this table is not location specific so please clarify the number of vessels required at each location.
- Please clarify that helicopters will not be used during the commissioning and decommissioning phase. If this is not the case, please add the number of helicopters required.

- Please provide a comparison of the available roosting habitats between what is currently available and what will be available during the CCUS Operational phase of the project.
- In the response to the Reg12(1) letter dated 1 July 2024, reference is made to the Technical note - Pollution Modelling. Please address the following comments:
 - i. Section 1.2.8 of the Technical Note states "Accidental leakage of diesel due to the drilling jack up rig has the potential to low -moderate impact ecosystems in the vicinity of the release as per the results of the table above...In the unlikely event of a Diesel release leak, minor localised influence on the marine environment may occur. The Development thus poses small risks of accidental diesel leak considering mitigation measures with the residual magnitude ranked as low." The table references the modelling outputs that shows in the worst case, the loss of the entire rig diesel inventory has a 40-50% chance of beaching in Merseyside in 3hrs with the diesel potentially also impacting Cumbria, Lancashire, Halton and some areas of Wales. The maximum mass of oil accumulations onshore (across all areas) ranges by season from 718m³ to 791m³. There is no evidence presented in the Technical Note to support why the worst-case pollution potential incident (presumably both on/offshore impacts) has the 'low-moderate', 'minor localised' and 'low' residual risks in terms on environmental impact as described. Please provide this evidence.
 - ii. Section 1.2.9 of the Technical Note states that a SIMA has been undertaken. The outputs / results from the SIMA are not discussed in the Technical Note report but these should be considered and included when the OPEP / Shoreline Response Plan(s) are developed. It is noted that the Technical Note states that SIMA was undertaken "according to The Oil Spill Response Effectiveness in UK Waters Guidelines" - These OGUK (OEUK) guidelines do not discuss or reference the SIMA process so this reference should be explained further. The Technical Note also includes the text: "Refer to Section 6.2 The Oil Spill Response Effectiveness in UK Waters Guidelines" - There is no section 6.2 in this document. Please amend this and provide further detail as requested above.

80. Chapter 8.11. Reg 12(1) letter dated 1 July 2024 – comment 191

Please assess Great Cormorant for Displacement and clarify the response to comment 191 (original 12(1) letter dated 1 July 2024) as Great Cormorant is not included in Table 8.9.

81. Section 8.11. Reg 12(1) letter dated 1 July 2024 – comment 192

Please provide information regarding the decommissioning of the complete CCUS infrastructure. OPRED appreciate that this is not fully developed, however a commitment and some details need to be included within the ES.

82. Section 8.11. Reg 12(1) letter dated 1 July 2024 – comment 193

The drilling and side-tracking of injection wells at Hamilton Main and Lennox, and the removal of topsides of Hamilton Main and Hamilton North will all occur during the overwintering period in 25/26. The drilling and side-tracking of wells at Lennox will occur during the overwintering season 26/27 and the commissioning of infrastructure will occur during the overwintering season 27/28 (according to Volume 1 chapter 3 Figure 3.11). All of the above work will require vessel movements. Therefore, the seasonal impact to birds in relation to the work to be carried out is required to be assessed. This should be location specific i.e. the Impacts at Lennox may be different from the Impacts of Hamilton Main. Any cumulative impacts should further be assessed. Please include this in this section.

83. Section 8.11.7. Reg 12(1) letter dated 1 July 2024 – comment 194

Please include an assessment of anticipated vessel movement and any seasonal restrictions that may be required. Any potential vessel movement between 1st November and 31st of March will need to be assessed if passing through Liverpool Bay SPA. This should be done on an individual basis and as cumulative effect and be location specific.

84. Section 8.11.24. Reg 12(1) letter dated 1 July 2024 – comment 196

Please confirm where in relation to existing Douglas complex new Douglas will be located.

85. Section 8.11.25. Reg 12(1) letter dated 1 July 2024 – comment 197

It is noted that nesting bird surveys have been undertaken on the existing platforms and is provided as part of the decommissioning Environmental Appraisal however, no information regarding these surveys has been provided within the ES. Please provide this information.

86. Section 8.11.25.1. Reg 12(1) letter dated 1 July 2024 – comment 198

It is understood that Liverpool Bay CCS Limited are unable to determine how many Kittiwakes will colonise the Douglas and when they will start to colonise the new Douglas CCUS platform however, please compare the currently available nesting sites on the Douglas OP with the new Douglas CCUS and assess the impacts to Kittiwakes.

87. Section 8.12. Reg 12(1) letter dated 1 July 2024 - Comment 199

Please update the cumulative effect assessment to ensure that it incorporates all projects within the surrounding area.

88. Section 8.13.10. Reg 12(1) letter dated 1 July 2024 - Comment 204

Please provide any site-specific potential effects to birds.

89. Section 8.16. Reg 12(1) letter dated 1 July 2024 - Comment 205

Please clarify if the impact on birds has been assessed in relation to required work on NUI's and the laying of new cables from Douglas, or does this only assess the cable to Douglas and the new Douglas infrastructure? Please clarify this and note that OPRED expects that the impacts are assessed to also include the work to be carried out in English Waters.

Volume 2 - Chapter 8: Offshore Ornithology - Offshore Ornithology Displacement Technical Report

90. Section 1.5.1.3, 1.5.1.4. Reg 12(1) letter dated 1 July 2024 – Comment 207 and 208

Please clarify if the impact vessel traffic to red-throated divers and common scoter's have been assessed in relation to any of the platform operations or laying of the three new power cables from Douglas to NUI's in particular when operations will occur in Liverpool Bay SPA? If the assessment has only been carried out to the export cable corridor, then this is not sufficient. Please clarify and carry out additional assessments as required.

Volume 2 - Chapter 9: Shipping and Navigation

91. Section 9.4.- Reg12(1) letter dated 1 July 2024 – comment 209

Please acknowledge the consent to locate permit requirement within this section and what operations will require an application for a consent to locate.

Volume 2 - Chapter 11: Marine Archaeology

92. Section 11 – Table 11.9. – Reg 12(1) dated 1 July 2024 – comment 210

Please clarify your response dated 2 September 2024 to the Reg 12(1) letter dated 30 August 2024 "the inclusion of existing wells as sentinel wells, prepared through the drilling and recompletion of injection wells by side-tracking existing production wells cannot be specifically addressed" as it is unclear.

It is also not clear whether the potential requirement for rig stabilisation material has been included within the assessment? Please clarify this.

Volume 2 - Chapter 12: Infrastructure and Other Sea Users

93. Section 12. Reg 12(1) dated 1 July 2024 – comment 211

There are other projects within the vicinity of the project. These need to be recognised and included within the cumulative impact assessment of your project. A visual representation of some activities can be found at

<https://www.arcgis.com/apps/webappviewer/index.html?id=cb3474a78df24139b1651908ff8c8975> . Please include.

Volume 2 - Chapter 13: Climate Change

94. Section 13.11.1.3. Reg 12(1) dated 1 July 2024 – comment 212

It is not clear from the ES if the environmental impacts of the three new power cables from the Point of Ayr terminal to the new Douglas platform (and onwards to the satellite platforms) have been assessed. Please clarify if this has been assessed in the ES (and state which section). If it has not been assessed, please include the assessment of the environmental impact of these cables.

95. Section 13.4.1 - Table 13.1. Reg 12(1) dated 1 July 2024 – comment 213

It is acknowledged that the UK carbon budgets have been provided, however, there is no information about whether the carbon budgets are on track to be met. It is noted that Liverpool Bay CCS Limited appears to have omitted the operations and decommissioning phases. Please address.

Similarly for Welsh Carbon budgets which have been presented there is no information about whether the carbon budgets are on track to be met. It is noted that Liverpool Bay CCS Limited appears to have omitted the operations and decommissioning phases. Please address.

There are a range of policy objectives and targets set at UK level, NW region and Welsh including the marine plans which include climate change objectives, please ensure project has been assessed against the relevant objectives/ targets/ policies.

96. Section 13.4.1 - Table 13.1. Reg 12(1) dated 1 July 2024 – comment 214

It is not clear from the emissions figures presented in Chapter 13 and additional information provided in Appendix O whether emissions from ongoing monitoring/survey have been included. Please clarify.

It is also noted that Table 13.9 does not align with appendix O see spreadsheet and that Table 13.10 does not align with appendix O. Please clarify.

97. Section 13.5 and Table 13.3. Reg 12(1) dated 1 July 2024 – comment 215

Please include assessment of impact against the air receptor and include a breakdown of pollutant species prior to converting them to a global warming potential (GWP) and an assessment of impact on the climate.

More transparency is required on the environmental impact to conclude no likely significant impact of pollutant emissions on humans and the environment or indeed why they should be scoped out prior to this stage of the EIA. Please provide further evidence on why impact of pollutant emissions to air has been scoped out including consideration of offshore receptors, vessel and activity scheduling for this project and others in its vicinity, distance to receptors and the behaviour of air pollutants in this area with regard to likely significant effect.

98. Section 13.7. Reg 12(1) dated 1 July 2024 – comment 216

Please confirm that the Douglas complex will be decommissioned prior to the CCUS project commencement. If so does the seabed it have time to recover prior to commencement of CCUS work? If not, please clarify your response describing why the baseline emissions are zero.

99. Chapter 13 Section 13.10. Reg 12(1) dated 1 July 2024 – comment 217

Please include what steps are being taken to reduce emissions from this project.

100. Sections 13.11.1.3 & 13.11.1.4 - Tables 13.11 & 13.12. Reg 12(1) dated 1 July 2024 – comment 218

Further information presented in Appendix O does not align with that shown in tables included in Chapter 13. For example, Table 13.9 excludes platform equipment and cables emissions which are included in Appendix O. Please clarify this.

Further information is also requested for Table 13.6 which has scoped out the annual risked mass leak rates which should be assessed on a worst-case basis. It is also noted that emissions associated with venting have been calculated in tables included within Chapter 13, however, it is stated in response to comment 219 that no venting is planned. Please clarify.

101. Section 13.11. Reg 12(1) dated 1 July 2024 – comment 219

Please clarify the following:

- Have monitoring/surveys undertaken by vessels throughout the project lifecycle have been factored into the assessment of emissions in Chapter 13 and or appendix O?
- Calculations relating to venting have been included in one document but not the other.
- It is not clear if well intervention involving rig or vessel visits is relevant or if it has been included.
- Maximum and average risked leakage masses for each storage site have been calculated, but this has not been included in a worst case emissions assessment despite the developer taking a worst case design envelope.
- The emissions factors used are from available sources, however the UK Greenhouse Gas Inventory provides annually updated factors. This means for example that the EF stated in S1.6.5.1 of Chapter 13 for gas oil/ diesel oil is 3.19 tCO₂/tonne fuel rather than 3.17 kgCO₂e/li.
- Table 13.15 makes reference to the emissions from each phase of the project (to assess against the relevant carbon budgets), however, it is not clear how

to find the total emissions which have been derived from Chapter 13 or Appendix O. Figures within Table 13.15 needs to indicate which phase and activity they have been taken from.

102. Section 13.11.1.1. Reg 12(1) dated 1 July 2024 – comment 220

Within section 13.11.1, it is not clear why some stages include embodied materials CO_{2e}, and vessel emissions associated with the installation, whilst other stages do not. Please clarify why there is a difference.

Volume 2 - Chapter 14: Inter-Related Effects

103. Section 14.6.2 - Table 14.7. Reg12(1) letter dated 1 July 2024 – comment 224

Section 14.6.2 - Table 14.7. Within Table 14.7 it is stated that “underwater noise will only arise during the construction phase and as such there will be no inter-related effects across the Proposed Development phases”. Underwater Noise will occur during the operational phase relating to the geological surveys that will be carried out. It should therefore be included within this table. Please amend.

Volume 3 – Technical Reports

Volume 3 – Report to Inform Appropriate Assessment (RIAA)

104. Section 1.1.2. Reg12(1) letter dated 1 July 2024 – comment 228

Please amend this section and any other relevant sections to ensure the information provided within this is consistent with the Design Notifications (submitted to the HSE), which suggest that new pipelines will be required from the Douglas Platform to the three satellite NUI's.

105. Section 1.6.4 – Page 67. Reg 12(1) letter dated 1 July 2024 – comment 242

The conclusion that there is no adverse effect on the integrity of the Dee Estuary SAC as a result of activities associated with the Proposed Development on page 67 is queried. Please provide additional information/evidence and clarity on how the assessment was derived in the absence of applicable sediment contamination data for the intertidal zone area and areas of sand wave clearance within the vicinity of the SAC.

106. Section 1.7.2 - Table 1.18. Reg 12(1) letter dated 1 July 2024 – comment 244 and 245

Please amend the text to make it clear that ramping up and/or soft starts may not be appropriate mitigation measures for fish, however, have been included as they are effective on other animal receptors. Please clarify what mitigation measures there are for fish.

107. Section 1.7.2. - Table 1.18. Reg 12(1) letter dated 1 July 2024 – comment 246

Please extend the mitigation zone for piling to 1 km. Please note where the impact radius is smaller than 1km, ADD should not be used.

108. Section 1.8.2 - Table 1.47. Reg12(1) letter dated 1 July 2024 – comment 253

OPRED notes that SBP's and SSS will be carried out throughout the years and that any supporting MMMPs have yet to be submitted. Table 1.47 makes reference to several plans and the commitment to adhere to plans, however the plans do not provide the necessary information for them to be considered as mitigation.

Any mitigation measures are required to meet legislative requirements or Adopted Standard of Industry Practice. Please amend as required.

109. Section 1.8.2 – Table 1.47. Reg12(1) letter dated 1 July 2024 – comment 254

Please extend the mitigation zone for piling activities to 1 km and use a single pile as the worst-case scenario. If the injury range is 1km or less, then ADDs should not be used.

110. Section 1.8.2.2 - Table 1.69. Reg 12(1) letter dated 1 July 2024 – comment 256

Please clarify if the Maximum Design Scenario Considered for the in-combination assessment of impacts on Annex II Marine Mammals includes any work required for the NUI's. If not, please include.

111. Section 1.8.3 - Table 1.106. Reg 12(1) letter dated 1 July 2024 – comment 257

Please update the in-combination assessment with the most up to date quantitative data which is available for the Mona Generation OWF Project.

112. Section 1.9.2 - Table 1.135 Reg 12(1) letter dated 1 July 2024 – comment 259

- a) It is noted in this section that all wells that the developer is planning to carry out work at, have been scoped into the assessment, however, these have been omitted from other sections of the ES. Please confirm that these have been taken into account in all relevant sections.
- b) Please confirm the plans for the decommissioning of CCUS pipelines.
- c) Please clarify how the creation of roosting/nesting platforms were assessed as being of minor positive effect on birds when the NUIs topsides are being replaced, the Douglas complex (3 platforms) is being removed and Douglas CCUS platform (1 platform) is being installed.

113. Section 1.9.3.1. Reg 12(1) letter dated 1 July 2024 - comment 260

- a) Given the variability in densities of red throated diver and common scoter across the Liverpool Bay SPA please calculate densities at specific locations of vessel activity rather than mean density across a large area.
- b) It is acknowledged that the displacement assessment covers Douglas platform however please carry out a vessel disturbance assessment for the NUI's within Liverpool Bay SPA for red-throated diver and common scoter plus any transit routes if these are outside of the shipping routes. Furthermore, please make it clear of the schedule of removal of the existing Douglas platform and installation of pipelines to connect to the new Douglas platform.
- c) Please clarify the schedule of work for the NUI's and any other work required to connect the NUI's with New Douglas platform including installation of new cables/pipelines/ new topsides etc. If any of this work could slip into wintering period, the following information need to be presented:
 - i. What density of red throated diver (RTD) and common scoter (CS) will be present in the disturbed area and thus used in the disturbance calculations?
 - ii. Where has this bird density data been obtained from? This should be obtained from Liverpool Bay specific data sources, Lawson et al (2015) is recommended
 - iii. Please include a map in the RIAA of the area wherein RTD and CS are assessed as being disturbed from for the construction and the operational phase. What % of birds are likely to be disturbed from this area
 - iv. How long will the disturbing activity last for in the construction phase?
 - v. The RIAA needs to describe the proportion of the SPA population that is likely to be disturbed
 - vi. What proportion of the available foraging habitat in the SPA will be excluded to RTD and CS as result of the disturbance? What are the implications of this exclusions, considering the conservation objective targets for 'bird distribution' and 'distribution of supporting habitats' are defined as 'restore' in the SNCB conservation advice due to the presence of infrastructure causing an ongoing impact, meaning further deterioration should be avoided.

Disturbance and displacement from airborne sound and presence of vessels and infrastructure is assessed in relation to mortalities impacting the qualifying populations of the SPA and the conservation objective regarding population size. However, no reference is made to how the loss of habitat due to vessel disturbance impacts the conservation objective regarding distribution of the feature(s).

The assessment has not been carried out with reference to the specific conservation objectives of qualifying features. Of note is one of the conservation objectives for red-throated diver, which is to restore the distribution of the feature. Due to this objective, it is recommended that all vessel activity within and 2km around the Liverpool Bay SPA is undertaken outside of the

wintering period (1. November to 31. March inclusive). It is recommended that, as a minimum, mitigation measures are put in place for vessel activity during the wintering period, namely using established shipping routes to transit through the SPA, slow vessel speeds, and avoiding over-revving of engines.

Using all the above information and recommendations, please provide further reasoning as to why the conclusion of a negligible adverse effect upon the integrity of the Liverpool Bay SPA alone has been reached.

114. Section 1.9.3 - Table 1.137. – Reg 12(1) letter dated 1 July - Comment 263

Technical Note - Displacement does not consider any potential displacement from decommissioning of the CCUS activities. This should be included. Please clarify:

- a) What is the implication of the excess mortality of RTD and CS described within the table to the conservation objectives of the SPA, and what affect does this have on SPA population?
- b) How has the likelihood of mortality from disturbance been calculated i.e. what is the relationship between disturbance and mortality that is being assumed?
- c) What mitigation will be built into the operating procedures to minimise impacts, for example a Vessel Management Plan to limit the spatial area wherein vessels are operating and minimise the footprint of disturbance during construction. Furthermore, during operation, would vessels be directed into defined routes/stand by areas?

115. Section 1.9.3 - Table 1.138. Reg 12(1) letter dated 1 July 2024 – comment 264

Please include what type of work could be undertaken during the winter period and detail any mitigation measures that would be appropriate along with a commitment to minimise any adverse effect to a designated site or its protected features.

116. Section 1.9.3.11 - Table 1.156. Reg 12(1) letter dated 1 July 2024 – comment 267

Pages 466 – 468 of the RIAA. It is stated that there will be no adverse effect to red-throated diver, little gull, common scoter and waterbird assemblage within Liverpool Bay SPA. Please clarify how this conclusion has been made. Please also clarify if the conclusion would be different depending on what season the work is undertaken.

117. Section 1.9.6.1.1. – Reg 12(1) letter dated 1 July 2024 – comment 271

- a) Please detail what aspects of the in-combination projects have been screened into the assessment of temporary habitat loss leading to displacement/disturbance of birds.
- b) Has the use of construction vessels in relation to transmission assets or wind farms been included in the area of impact for wind farms?

- c) Please list the transmission assets for all windfarms within the vicinity of Liverpool Bay SPA and detail:
 - a. Which impacts from which elements of the projects are screened into the assessment
 - b. If there is a temporal overlap of the project with the proposed project including the duration of any temporal overlap.
- d) Please include information on how the loss of habitat due to vessel disturbance impacts the conservation objectives of the relevant site.

Your response will be reviewed, and consideration given as to whether the information provided ought to be made public because the information is directly relevant to reaching a conclusion on whether the project is likely to have a significant effect on the environment. If so, OPRED will notify Liverpool Bay CCS Limited under Regulation 12(3), and Liverpool Bay CCS Limited will have to take further steps to publish information and make provision for further public consultation under Regulations 12(5) to 12(9).

OPRED looks forward to receiving your response so that we can progress our consideration of the ES.

Yours sincerely



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Environmental Manager

The Offshore Petroleum Regulator for Environment and Decommissioning
For and on behalf of the Secretary of State for Energy Security and Net Zero