



TotalEnergies E&P North Sea UK Ltd

# Culzean - Floating Offshore Wind Turbine Pilot Project Environmental Impact Assessment Report – Chapter 17 - Conclusions

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## GLOSSARY

TERMINOLOGY	DESCRIPTION
<b>Culzean Floating Offshore Wind Turbine Pilot Project (“the Project”)</b>	The entire Development including all offshore components and all project phases from pre-construction to decommissioning.
<b>Environmental Impact Assessment (EIA)</b>	The procedure to predict, minimise, measure and, if necessary, correct and compensate the impacts produced by any human action.
<b>EIA Regulations</b>	The Marine Works (Environmental Impact Assessment) Regulations 2007 requires that certain types of projects with the potential to significantly affect the environment have an environmental impact assessment before a marine licence decision is made.
<b>Export Cable</b>	Cable connecting the Floating Wind Turbine to the Culzean Platform
<b>Innovation and Targeted Oil and Gas (INTOG)</b>	<p>The Initial Plan Framework Sectoral Marine Plan for Offshore Wind for INTOG encompasses spatial opportunities and a strategic framework for future offshore wind developments within sustainable and suitable locations that will help deliver the wider United Kingdom (UK) and Scottish Government Net Zero targets.</p> <p>The ‘IN’ component of INTOG consists of small-scale innovative projects of 100 Megawatts (MW) or less. The aim of the ‘TOG’ component is to supplying renewable electricity directly to oil and gas infrastructure. The Culzean project falls under the TOG component of INTOG.</p>
<b>Marine Licence Application (“the Application”)</b>	A Marine Licence is granted under the Marine and Coastal Access Act 2009 for projects between 12-200 Nautical Miles (nm) from shore, or the Marine (Scotland) Act 2010 for projects between Mean High-Water Springs (MHWS) out to 12 nm from shore. The Application includes Habitats Regulations Appraisal (HRA) supporting documentation (where required), an application letter, Marine Licence application form and this Environmental Impact Assessment Report (EIAR).
<b>Floating Wind Turbine Generator (WTG)</b>	Device that converts the kinetic energy of wind into electrical energy. Can be functionally divided into four parts: wind turbine, tower and transition piece, floating foundation, and mooring system.

## ACRONYMS AND ABBREVIATIONS

ACRONYM/ABBREVIATION	DEFINITION
CNS	Central North Sea
DTU	Technical University of Denmark
E&P	Exploration and Production
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
INTOG	Innovation and Targeted Oil and Gas
IPF	Initial Plan Framework
km	kilometres
MASTS	Marine Alliance for Science and Technology for Scotland
MD-LOT	Marine Directorate – Licensing Operations Team
MW	Megawatt
NTS	Non-Technical Summary
PDE	Project Design Envelope
R&D	Research and Development
TEPNSUK	TotalEnergies E&P North Sea UK Ltd
UK	United Kingdom
UKCS	United Kingdom Continental Shelf
WTG	Wind Turbine Generator

## 17 CONCLUSIONS AND NEXT STEPS

### 17.1 Concluding statement

This Environmental Impact Assessment Report (EIAR) was carried out for the Culzean Floating Offshore Wind Turbine Pilot Project (the 'Project') to support a Marine Licence Application (the 'Application') through the Marine Works (Environmental Impact Assessment) Regulations 2007 (United Kingdom (UK) Government, 2007).

The Project is being delivered by TotalEnergies E&P North Sea UK Ltd (TEPNSUK) (the 'Applicant'). TEPNSUK (within the wider TotalEnergies UK portfolio) is one of the largest energy companies on the United Kingdom Continental Shelf (UKCS).

The Project consists of one 3 Megawatt (MW) Wind Turbine Generator (WTG), one floating substructure, up to six mooring lines, up to six drag anchors (or an alternative plate anchor scenario) and one approximately 2.5 kilometres (km) export cable with associated scour and cable protection. The Project does not require grid connection to shore as the export cable shall connect to the existing oil and gas platform (Culzean Field) located 222 km east of Aberdeen in the UKCS, Block 22/25a in the Central North Sea (CNS). TEPNSUK will be applying for a 10-year Marine Licence to cover the design life of the WTG.

Whilst this Project is not seeking consent under Section 36 of the Electricity Act 1989, the Environmental Impact Assessment (EIA) approach has been aligned with the Scottish Government (2022) Guidance for applicants on using the design envelope for applications under Section 36 as best practice. The Project falls under the Innovation and Targeted Oil and Gas (INTOG) Initial Plan Framework (IPF), where seabed lease rights were awarded to offshore wind farm projects that provided low carbon electricity to power oil and gas installations (to help to decarbonise the sector) or to small-scale innovation projects. The rationale of the Project is to trial the new floater technology using a readily available WTG design, and the Project has two primary objectives:

1. Qualify a new semi-submersible floating substructure WTG concept; and
2. Perform a hybridisation test on an Exploration and Production (E&P) asset.

Alongside the two primary objectives, the Project will implement a scientific Research and Development (R&D) programme in conjunction with the Technical University of Denmark (DTU) and the Marine Alliance for Science and Technology for Scotland (MASTS). The full information regarding the R&D projects can be found in Chapter 1: Introduction.

Multiple sites and alternatives have been considered throughout the development of the Project. The 'do nothing' option was discarded for several reasons, including the requirement to use alternative emissions intensive fuel. Four initial sites were investigated, two of which are in Norwegian waters, which were discarded. The remaining two options were the Alwyn North platforms and the Culzean platforms. The Alwyn lifespan was deemed unsuitable, and as Culzean is the most advanced and forward-looking digital facility, the Culzean site was chosen for this hybridisation Project. Full details of the site selection process are provided in Chapter 3: Site Selection and Consideration of Alternatives.

This EIAR provides a thorough assessment of the potential environmental effects of the Project, as clarified in Chapter 6: EIA Methodology. The EIAR process methodically identifies the potential impacts that the Project could have on the environment throughout all phases, including construction, operation and maintenance and decommissioning. The first step includes submitting a Scoping Report, which was delivered to Scottish Ministers via the Marine Directorate – Licensing Operations Team (MD-LOT) on 14<sup>th</sup> April 2023 and provided information on the proposed Project, the proposed outline approach, and the topics proposed to be scoped into and scoped out of the EIA. Following receipt of the Scoping Opinion from MD-LOT (on the 20<sup>th</sup> July 2023), the EIA process commenced in line with the Scottish Government (2022) guidance. The EIA process followed key steps, starting with baseline characterisation, description of the Project Design Envelope (PDE), assessment of potential effects, identification of mitigation and assessment of residual effects, identification of relevant monitoring studies and finally the publication of the EIAR and Non-Technical Summary (NTS).

The significance of an effect was determined per assessed topic (Chapters 7 – 16) by identifying a receptor’s sensitivity (influenced by tolerance to change, recoverability, adaptability and value) to that effect, and the magnitude of the impact (influenced by spatial extent, duration, frequency, intensity and likelihood). Through a matrix approach, in line with professional judgement, the sensitivity and magnitude were combined to determine the consequence of the effect, ranging from negligible to major. Negligible and minor consequences are not significant in EIA terms, whereas moderate could be potentially significant and major consequences are deemed significant in EIA terms. All impact assessments accounted for embedded mitigation measures, and, where required, suggested proportionate additional mitigation measures to reduce any residual effects to non-significant levels.

Overall, all potential effects of the Project are predicted to be not significant (Table 17-1).

## 17.2 Next steps

Following the submission and acceptance of this EIAR, and the Application, any next steps will be determined by Scottish Ministers following consultation with stakeholders.

Table 17-1 Summary of EIA outcomes

CHAPTER	SUMMARY OF ASSESSMENT		
	CONSTRUCTION PHASE (INCLUDING PRE- CONSTRUCTION)	OPERATION AND MAINTENANCE PHASE	DECOMMISSIONING PHASE
<b>Chapter 7: Marine Physical Processes</b>	No significant effects identified	No significant effects identified	No significant effects identified
<b>Chapter 8: Benthic Ecology</b>	No significant effects identified	No significant effects identified	No significant effects identified
<b>Chapter 9: Fish and Shellfish Ecology</b>	No significant effects identified	No significant effects identified	No significant effects identified
<b>Chapter 10: Marine Mammals and Other Megafauna</b>	No significant effects identified	N/A All impacts scoped out	No significant effects identified
<b>Chapter 11: Ornithology</b>	No significant effects identified	No significant effects identified	No significant effects identified
<b>Chapter 12: Commercial Fisheries</b>	No significant effects identified	No significant effects identified	No significant effects identified
<b>Chapter 13: Shipping and Navigation</b>	No significant effects identified	No significant effects identified	No significant effects identified
<b>Chapter 14: Aviation and Radar</b>	No significant effects identified	No significant effects identified	No significant effects identified
<b>Chapter 15: Marine Archaeology</b>	No significant effects identified	No significant effects identified	No significant effects identified
<b>Chapter 16: Other Sea Users</b>	No significant effects identified	No significant effects identified	No significant effects identified