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**STATUTORY  
ENVIRONMENTAL  
ASSESSMENT  
EIA SCREENING  
DETERMINATION FOR  
EUROPA INISHKEA**

# STATUTORY ENVIRONMENTAL ASSESSMENT EIA SCREENING DETERMINATION FOR EUROPA INISHKEA

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## EXECUTIVE SUMMARY

Ramboll UK Limited (herein referred to as Ramboll) has been commissioned by the Department for Communication, Climate Action and Environment (herein referred to as DCCAE) to provide assistance with regards to the statutory assessment of an application by Europa Oil & Gas (Inishkea) Limited (referred to herein as the applicant) for an Environmental Impact Assessment (EIA) Screening Determination.

The applicant has submitted an application for to carry out a geophysical and environmental survey (seabed and shallow soils) and environmental baseline survey to inform a habitats assessment in the Inishkea area in Blocks 18/19 and 18/20.

The DCCAE (as the competent authority) is required to give consideration to the potential for likely significant effects of such activities, with respect to the European Union (Environmental Impact Assessment (EIA)) (Petroleum Exploration) Regulations 2013 amended by the European Union (Environmental Impact Assessment) (Petroleum Exploration) (Amendment) Regulations 2019 (S.I. No 124 of 2019) and the EU Directive (2014/52/EU), as amended by Directive 2014/52/EU (herein referred to as "The EIA Directive". This report provides a review of the applicant's request for screening determination, supported by an EIA Screening Report.

The report provides a conclusion that can be used by the DCCAE to issue a screening determination. The information presented in the applicant's screening report is considered to be complete, that no further information is required and provides adequate information to allow the DCCAE to issue a screening determination.

Table ES.1 summarises the overall screening determination.

**Table ES.1: Summary of screening assessment for projects listed on Annex II of the EIA Directive**

<b>Outcome of Screening Report Assessment</b>	<b>Overall Screening Opinion / EIA Required?</b>
Likely Significant Residual Effects on the Environment	<b>EIA required</b>
More information is required to inform decision	<del>Unknown</del> <b>is EIA is required – Further information required from the applicant</b>
No Likely Significant Effects on the Environment	<b>EIA not required</b>

# 1. INTRODUCTION

Ramboll UK Limited (herein referred to as Ramboll) has been commissioned by the Department for Communications, Climate Action and Environment (herein referred to as DCCA) to provide assistance with regards to the statutory assessment of a request by Europa Oil & Gas (Inishkea) Limited for an Environmental Impact Assessment (EIA) Screening Determination, submitted in respect of a geophysical and environmental site survey over Licensing Blocks 18/19 and 18/20 at "Inishkea" well location.

## 1.1 Project Background

The purpose of proposed geophysical and environmental site survey is to:

- Accurately determine water depths and seabed/subsurface geology at the site;
- Identify any seabed obstructions and confirm the location of any existing infrastructure (such as pipelines, wellheads);
- Assist in the identification of all geo-hazards and geological conditions that may be of significance to future drilling activities;
- Provide information on the cultural potential of the survey area, including the location of any ship wrecks or other underwater cultural heritage features
- Identify and delineate Annex I habitats (as defined in the EC Habitats Directive 92/43/EC) or other sensitive habitats and identify any areas of environmental interest;
- Establish environmental baseline to establish a benchmark for ongoing environmental monitoring as per OSPAR guidelines; and
- Acquire sediment samples for determination of physio-chemical baseline conditions.

The 'European Union (Environmental Impact Assessment (EIA)) (Petroleum Exploration) Regulations 2013 (S.I. No 134/2013) amended by the European Union (Environmental Impact Assessment) (Petroleum Exploration) (Amendment) Regulations 2019 (S.I. No 124 of 2019). ' (herein referred to as the 'EIA Regulations'), require that where an application has been made by the holder of an exploration licence or petroleum prospecting licence for permission to undertake activities under the licence, the activities the subject of the application must be assessed to determine whether they would or would not be likely to have significant effects on the environment.

This report has been prepared as a statutory assessment of a request for an Environmental Impact Assessment screening determination submitted in respect of environmental and geophysical surveys at Licensing Blocks 18/19 and 18/20 at "Inishkea" well location.

## 1.2 Documents Reviewed

The following documents have been reviewed to inform this report:

- Application to Conduct a Site Survey for Licensing Option (LO) 16/20. Letter accompanying application documents dated 10/05/19.
- Inishkea Prospect Site Survey – Screening for Environmental Impact Assessment and Environmental Risk Assessment. Document No. MGE0719RP0004 Rev F04. Dated 09/05/19. Prepared by RPS Group on behalf of Europa Oil and Gas (Inishkea) Ltd.
- Inishkea Prospect Site Survey – Survey Technical Specification Report. Document No. MGE0719RP0006 Rev F04. Dated 09/05/19. Prepared by RPS Group on behalf of Europa Oil and Gas (Inishkea) Ltd.

Statutory Environmental Assessment

- Inishkea Prospect Site Survey – Pre-survey Fishery Assessment. Document No. MGE0719RP0007 Rev F04. Dated 09/05/19. Prepared by RPS Group on behalf of Europa Oil and Gas (Inishkea) Ltd.
- Inishkea Prospect Site Survey – Response to Requests for Further Information and Clarifications to Inform Environmental Impact Assessment Screening. Document No. MGE0719RP0017 dated 27/08/19. Prepared by RPS Group on behalf of Europa Oil and Gas (Inishkea) Ltd.

## 2. TERMS OF REFERENCE

### 2.1 Legislative Context

This EIA screening determination has been prepared in line with applicable European and Irish legislation, including:

- EU Directive on assessment of the effects of certain public and private projects on the environment (Environmental Impact Assessment) Directive (2011/92/EU) and as amended by Directive 2014/52/EU;
- European Union (Environmental Impact Assessment) (Petroleum Exploration) Regulations 2013 (S.I. No 134/2013); and
- European Union (Environmental Impact Assessment) (Petroleum Exploration) (Amendment) Regulations 2019 (S.I. No 124 of 2019).

### 2.2 Relevant Guidance

This report has been prepared having regard to guidance on EIA screening for planning authorities, published by the Department of Housing, Planning and Local Government (DHPLG) in 2018<sup>1</sup>. In addition, the structure and content of this report is based upon the methodology published by the European Communities in 2001<sup>2</sup>.

### 2.3 Consultation

#### 2.3.1 Prescribed Bodies

Notification of the application was issued to the following organisations:

- National Parks and Wildlife Service;
- Irish Maritime Administration, Department of Transport, Tourism and Sport;
- Ship Source Pollution Prevention Unit Irish Maritime Administration, Department of Transport, Tourism and Sport;
- Irish Coast Guard (& National Maritime Operations Centre), Department of Transport, Tourism and Sport;
- Sea Fisheries Protection Authority;
- Sea Fisheries Policy Division, Department of Transport, Tourism and Sport;
- Department of Defence;
- Mission Support Facility, Irish Air Corps;
- Naval Headquarters;
- Marine Institute;
- Commissioners of Irish Lights

One of the prescribed bodies responded with observations on the application as outlined below.

- Response email from Maritime Safety Policy Division, Department of Transport, Tourism and Sport dated 13/05/19;
  - The Maritime Safety Policy Division, wish to inform [the Applicant] that (prospective) licensees and their employees and contractors are reminded that they should be aware of ship-source pollution prevention provisions which are in place to protect human health and the marine environment, and apply to all shipping activity. These provisions are

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<sup>1</sup> [https://www.housing.gov.ie/sites/default/files/publications/files/guidelines\\_for\\_planning\\_authorities\\_and\\_an\\_bord\\_pleanala\\_on\\_carrying\\_out\\_eia\\_-\\_august\\_2018.pdf](https://www.housing.gov.ie/sites/default/files/publications/files/guidelines_for_planning_authorities_and_an_bord_pleanala_on_carrying_out_eia_-_august_2018.pdf)

<sup>2</sup> <http://ec.europa.eu/environment/archives/eia/eia-guidelines/g-screening-full-text.pdf>

obligatory independently of particular licence terms and conditions. Under the MARPOL Convention and EU law, as applicable in national law, ships may not cause pollution either by discharge to water or emissions to air, when at sea or when at berth in port. Ships include Floating Production, Storage and Offloading vessels (FPSOs), also called a "unit" or a "system"; and Floating Storage Units, (FSUs). Ships berthed at terminals at sea are also obliged to conform to the law.

Management of ship waste (mainly oil, hazardous and polluting substances, sewage, garbage and polluting emissions to air) and of all cargo residues must be ensured as required under international (IMO), EU and national law. Under existing provisions ships are obliged to discharge waste and cargo residues at port and ports are obliged to provide adequate facilities for their reception from ships.

Appropriate regard has been given to the issues raised in this submission, and the relevant provisions referenced by the Maritime Safety Policy Division are included in the mitigation and management commitments in section 5 of this report.

### 2.3.2 Public consultation

The application by the applicant was advertised by DCCAE on their website following receipt of the application on 15 May 2019. Submissions were advertised by the DCCAE to be received by close of business on 14 June 2019 to ensure consideration by the Minister.

Six responses were received, and the points raised by these have been considered and responded to as provided in the following sections of this report:

- 
- Response letter from Irish Whale and Dolphin Group (IWDG) dated 19/05/19;
- Response letter from private individual (name withheld for privacy) dated 12/06/19;
- Response email from Gluaiseacht for Global Justice dated 14/06/19;
- Response email from a private individual dated 13/06/19;
- Response letter from Gas Networks Ireland dated 14/06/19; and
- Joint response letter from Not Here, Not Anywhere, Futureproof Clare, Love Leitrim and Friends of the Earth Ireland undated.

Following receipt of additional information from the applicant, the DCCAE advertised a further consultation period on this information from 30 August 2019 to 13 September 2019. Two responses were received, and the points raised have been considered and responded to as provided in the following sections of this report:

- Response email from Not Here, Not Anywhere dated 12/09/19; and
- Response email from private individual (name withheld for privacy) dated 13/09/19.

### 2.3.3 General Consultation Responses

The following general responses have been received:

- General economic comments
  - Seismic testing for oil and gas has serious consequences for the marine ecosystem and those whose livelihoods depend on it. In Ireland, the seafood industry provides 11,000 jobs and has a GDP of €1.1 billion. In contrast, the oil and gas industry has provided only 270 long-term jobs and in the case of some operators, has never paid tax as we will discuss further on.
  - Companies like Europa Oil & Gas risk not only the destruction of fish stocks, tourism industry and marine life, but their own investments. Shell Oil recently left the Corrib gas



field with losses of up to a billion. The millions that it costs to set up a new fossil fuel infrastructure represent "stranded assets". Even if oil and gas reserves are found, the benefit to Ireland would be minimal. In the event that Europa does end up paying tax on the Inishkea licence, it would be one of the lowest rates in the world. Petroleum extraction tariffs are only 25% - 40%, paltry compared to a 78% tax rate for oil companies in Norway.

Companies like Corrib have paid no tax to the Irish state at all, despite running for over 3 years and earning €734m in revenue in 2018. Their current operator Vermillion have said that "we do not expect to pay income taxes related to cash flows generated from the Corrib project". Brian O'Cathain, former MD of the Corrib project and current director of Europa, has publicly said that "Corrib will never pay tax".

As for buying fuel, there is no obligation for Europa to sell any oil that might be found in Inishkea to the Irish people, or even to land the oil in Ireland. As there are no oil refineries in Ireland, it is likely that it will be cheaper to ship the oil to other countries.

Environmental legislation is ignored by the government Minister and department promoting oil and gas development to the loss of the Irish tax payer.

- It will be extra hard for countries who have a history of benefiting financially from oil and gas developed in their territory to cease exploration and development of fossil fuels. But fortunately (due to previous dodgy deals) Ireland has only minimally benefitted from any gas development in its territory. As an example of this in November when Vermilion took over as operator of the Corrib, they declared that "we do not expect to pay income taxes related to cash flows generated from the Corrib project".  
<https://www.independent.ie/business/irish/corrib-operator-eyes-expansion-and-taxfree-cash-37575461.html>
- Brian O Cathain who is currently a director with Europa and formerly MD of the Corrib project has also previously said that "Corrib will never pay tax" -  
<http://www.shelltosea.com/content/news-release-corrib-will-never-pay-tax-says-projects-former-md>. Europa CEO Hugh Mackay has previously commented on Ireland's oil and gas terms: "The geological ingredients here are good. The fiscal terms are fantastic"  
<https://www.rte.ie/news/business/2013/0218/368394-europa-oil-ireland/>. So while everyone will have to deal with the consequences of these oil & gas fields being developed only the company shareholders are benefitting. If you truly believe that climate disruption is upon us then this application would not be even entertained.
- General comments on health, safety and environmental issues
  - The Earth is in a state of climate emergency. For the planet to remain a safe operating space for humanity, global temperatures must be maintained at less than 2°C above pre-industrial levels. To do this, 80% of the known fossil fuels need to stay in the ground. Even at 1°, we are already experiencing serious effects, with India reaching an unprecedented 51° in June 2019. Even countries like Ireland with a temperate oceanic climate will be severely affected. According the Department's website, the more immediate impacts predicted include:
    - Sea level rise;
    - More intense storms and rainfall events;
    - Increased likelihood and magnitude of river and coastal flooding;
    - Water shortages in summer;
    - Increased risks of new pests and diseases;
    - Adverse impacts on water quality; and

- Changes in distribution and phenology (the timing of lifecycle events) of plant and animal species on land and in the oceans.

Ireland's performance on climate action is among the worst in Europe and projections from the Environmental Protection Agency indicate that the government will manage to reduce greenhouse gas emissions by at best 1% by 2020, falling far short of its 20% commitment under the Paris agreement.

- When you became Minister for Climate Action you said that we would require "a revolution in how we live" well this is a test for you, to see if they were just nice words or is climate change something that you actually believe in and can act bravely on. You have also said that "We need to step-up our response to climate disruption. The window for opportunity is closing. The decisions we take now will define the next century,". One of these important decisions is to stop developing new sources of fossil fuel. The consequence of this decision could be still in the atmosphere in 200 years time, in the year 2219 and could be still causing climate disruption then. You attended on school strike for climate action on the 15th March this year. This has been inspired by the Greta Thunberg who has previously written. "You say nothing in life is black or white. But that is a lie. A very dangerous lie. Either we prevent 1.5C of warming or we don't. Either we avoid setting off that irreversible chain reaction beyond human control or we don't. Either we choose to go on as a civilisation or we don't. That is as black or white as it gets. There are no grey areas when it comes to survival." Well, here you have a black and white choice to show are you on the side that will choose to fight for our future civilisation or choose short-term profit for oil companies. A report from Oil Change International Gas entitled "Burning The Gas: 'Bridge Fuel' Myth" found that gas is not a viable bridge fuel between fossil fuels and renewables, nor is it clean, inexpensive, or necessary. [http://priceofoil.org/content/uploads/2019/05/gasBridgeMyth\\_web-FINAL.pdf](http://priceofoil.org/content/uploads/2019/05/gasBridgeMyth_web-FINAL.pdf)
- We believe that applications should be supported by health and safety assessments for those involved and evidence of the insurance public liability and liability to staff.
- Minister of State Sean Canney recently stated in the Dáil that "In 20 years' time, we will have transitioned away from this type of fuel [gas] but we cannot do it overnight." If this is the Department plan we shouldn't be supporting search for more oil or gas for companies that have fought the energy transition tooth and nail.
- Of course the knock-on effects of burning those oil and gas reserves, i.e. climate change, will have a far more serious consequence on our economy. The government predicts that costs from direct damages from flooding alone will rise to €1.15 billion per year by 2050.
- We also believe that the MMO should be legally independent of Europa.
- General comments on legal entities and contractor
  - Europa have signed a site survey contract with Fugro. The Minister should not allow Fugro to operate in Irish waters. Fugro have previously carried out illegal seismic surveys off the coast of occupied Western Sahara in violation of international law as established by the UN Legal Council. <https://www.somo.nl/wp-content/uploads/2010/05/Fugro-Overview-of-controversial-business-practices-in-2009.pdf> Fugro, the seismic survey firm that Europa plan to use, have already violated international law and ethical norms in conducting tests offshore of Western Sahara.
  - The application for the original survey was made by the parent company Europa Oil and Gas (Holdings) Plc. We have noted before the structure that Europa uses of having separate English companies for each of its applications. We consider that it would be appropriate for the Minister to seek parental guarantees over each of Europa's operations in Irish water so that, in extremis, the Europa parent could not avoid liability for any survey carried out for a subsidiary.

- We also note that since the original application the chance of a no-deal Brexit has become significantly more likely. Given the likelihood of legal chaos resulting in the UK if this happens, we believe that all UK companies should be asked to agree that they will submit to the legal authority of Irish law should any litigation ensue from the survey.
- General regulatory process comments
  - PAD as a facilitator of oil and gas exploration fails as a regulator due to a conflict in interest and is unable to protect the marine environment.
  - Where is the EIA Screening Assessment carried out by the Department for Natural Resources/DCCA and the Minister's decision? The EU Commission is dealing with breaches of Community Law by Members. The consultants are not members of the EU, it is a company that can write in a report whatever they like, including conclusions, they are not the decision maker whether or not the project needs EIA/AA or anything else that matters.
  - The onus rests on the EAU to look at the overall plan or project of which this application is merely a foot-hold. It is entirely unacceptable that, once again, a piece-meal approach to garnering consents is beginning and, it would appear, nothing has been learned from the mess that was, and continues to be, Corrib; the reverse in fact appears to be the case – Europa boasts of have 'access to a number of former Enterprise staff responsible for this project including: the geophysicist who first mapped the Corrib project, the Dublin exploration manager responsible for the first four exploration and appraisal wells and the Dublin general manager responsible for taking the field through to consent for plan of development' and 'Europa therefore has significant and relevant technical, commercial and project management expertise to apply to gas exploration in FEL 4/19' – not I repeat if the lessons of Corrib remain ignored.
- General comments on gas infrastructure
  - I expressed concerns at the beginning of, and throughout the long planning and regulatory consent process of the Corrib Gas Project (Corrib) that it was a pig-in-a-poke application to gain all the consents for just one gas refinery as a basis for subsequent - and already anticipated and/or planned-for - such developments in the future. Time and again, I was told that I was wrong; that the Corrib consent process - and all associated assessments - was a stand-alone project with a field-life of approximately 15 years; that the infrastructure, particularly the production pipeline but including the land-based refinery, was specifically for the production of gas from the Corrib field and that it was unacceptable for me to raise any possibility of future use of the Corrib infrastructure. Earlier this year I made a submission to PAD/EAU in respect of the Europa Inishkea application for a site survey and asked for clarification on this point but didn't receive any. While preparing a further submission in response to further information provided to PAD/EAU on this application I accessed the Europa Oil & Gas website which is the reason for this email. I believe two paragraphs in particular, quoted below, vindicate my long-expressed concerns and, as a defender of Place, are the stuff of my worst nightmares.
    - (i) Gas infrastructure is already present nearby at Corrib therefore a fast track path to commercialisation is potentially available, subject to negotiation and cooperation with the infrastructure owners.
    - (ii) The Corrib field was discovered by Enterprise Oil in 1996. Europa has access to a number of former Enterprise staff responsible for this project including: the geophysicist who first mapped the Corrib prospect, the Dublin exploration manager responsible for the first four exploration and appraisal wells and the Dublin general manager responsible for taking the field through to consent for plan of development. Europa therefore has

significant and relevant technical, commercial and project management expertise to apply to gas exploration in FEL 4/19.

These comments are in regard to the current economic environment, more general comments in regard to health, safety and environmental including climate change, the current regulatory process that exists within Ireland and the structure of DCCAE. Appropriate regard has been given to the issues raised in this submission, however the observations are not considered to be relevant to the scope of this report and therefore are not addressed further.

#### 2.3.4 Project Specific Consultation Responses

The following project specific consultation responses have been received:

<b>Consultee</b>	<b>Project Specific Comments</b>	<b>Response</b>
IWDG	Nowhere in the documentation are lines to be acquired stated so it assumed that this will be a continuous acquisition. This would be best stated clearly and the reasons why this is necessary or permissible should be given or else the lines declared.	An indicative line plan has been provided by the applicant in response to a Further Information Request.
IWDG	It can be argued that line turns will be short but in the event of this not being the case what will happen? Given that there are no lines described in the documentation it is impossible to assess the extent of the impact of the survey.	Adequate mitigation has been provided by the applicant in the case of extended line turns in the applicant's EIA Screening report.
IWDG	The Survey Technical report paragraph 1 is titled "Application for approval to conduct a seismic and site survey". Seismic surveys generally include airguns however no airguns are listed in the equipment of this document. Therefore, I am led to conclude the author has a different view of what constitutes a seismic survey. However, in the EIA and NIS report the equipment listed included on page 43 a 10 cubic inch airgun which is described as having a peak source level of 196 db re 1 $\mu$ Pa @ 1 m, this is indeed news to me and I would welcome a source or reference for this assertion. I note that none of the equipment information is referenced and since the source of a small airgun (10 cubic inches also) is given by Richardson (1995) in Marine Mammals and Noise as 222 db re 1 $\mu$ Pa @ 1 m, I see no reason to change this figure unless someone can provide a reference to this effect.	The survey includes the use of a 10 cu inch airgun as described by the applicant's EIA Screening Report.  References for the peak source outputs of the proposed survey equipment have been provided by the applicant in response to the Further Information Request.
IWDG	The Chirp Sub Bottom Profilers (SBPs) use frequencies of 2-15 kHz (Edgetech 3300) and 1-16 kHz (Edgetech 2205) as describe on page 43 on the AA Screening and NIS document. The Edgetech 3300 is described on page 10 as having a 1-16 kHz range in common with	The applicant has provided additional information in response to the Further Information Request to clarify the points raised.

<b>Consultee</b>	<b>Project Specific Comments</b>	<b>Response</b>
	<p>the 2205. This is a very minor oversight but given the lack of references the numbers given, source levels of this equipment should be checked. The source level given for the chirper system (page 43) is 200 and 195 db re 1 <math>\mu</math>Pa (peak). This is considerably lower than the source level of naval sonar. However military sonar using frequencies of 1 to 10 kHz (Wensveen et al., 2019) and commercial chirpers use the same frequency range, with the same frequency modulation or CHIRP (Compressed High Intensity Radiated Pulse) technology, that are known to have considerable impact on beaked whales at extensive distances at much lower received levels (Wensveen et al., 2019) than the source level of the commercial chirp systems in the report. The argument that these systems will have minimal impact seems without evidence and it seems unlikely that beaked whales will be able to tell the difference between commercial CHIRP signals and naval CHIRP sonar. Given the recent large number of strandings of both Cuviers and sperm whales in Ireland in this area and since strandings represent a small sample (8% according to a French study) of whales killed at sea, with many carcasses simply sinking at sea. It would be prudent to operate a shut down for these species should they occur within the operational area. The area is a known location for beaked whales and it would seem prudent to apply precautionary measures. The impact of naval sonar occurs over a very wide area and commercial CHIRP systems are likely to have a much more limited impact, nevertheless a shutdown for animals detected should be considered given the limited range that both visual observers and acoustic detections will operate to. PAM systems generally are believed to have a maximum detection range for beaked whales of 2 to 3 km but in all likelihood this range will be much less due to vessel noise, while sperm whales can be detected over a greater area. However, given the location on the shelf edge a 24-hour PAM operation should be maintained with a clear authority to stop operations and restart based on PAM operations alone. Without a shutdown behavioural responses of cetaceans to a sound source can lead to fatalities in an area where significant acoustic effects (probable) have already taken place.</p>	<p>An appropriate level of mitigation is proposed by the applicant in regard to the survey being undertaken.</p> <p>The applicant has confirmed in response the Further Information Request that no start-up will occur in the hours of darkness. Sound-producing survey activities will only be commenced in daylight hours where effective visual monitoring, as determined by the MMO, can be achieved.</p> <p>It should be noted that should any marine mammals enter the operational area whilst surveying is underway, then it is accepted that they have entered the area with knowledge of the noise levels and therefore a shutdown of equipment is not required.</p>
IWDG	<p>PAM should be operated by at least one person capable of identifying beaked and sperm whale acoustics as well as localisation using acoustic signals.</p>	<p>The applicant has confirmed that PAM will be used in addition to visual monitoring to detect actively</p>

Consultee	Project Specific Comments	Response
		<p>vocalising marine mammals. Where marine mammals are detected using PAM during the pre-start monitoring period, equipment ramp-up procedures, and ensuing sound-producing survey activity shall not be undertaken.</p>
<p>IWDG</p>	<p>I think it only prudent given recent mortalities in deep diving species (beaked and sperm whales) due to what is probably naval sonar and given the similarity of acoustic characteristics of commercial chirper systems which operate in the same frequency range, albeit with lower source levels and different directionality, that a precautionary approach to chirper should be undertaken. If no animals are present extra mitigation measures will have little or no impact on the survey. Beaked whales appear to show fidelity to locations of high food availability (Southall et al, 2019). There are no studies of the impact of commercial CHIRP systems on whales but there is no basis to assume they have no impact. Therefore I would urge you to consider the potential impact of a system that in many ways mimics mid-frequency naval sonar and to mitigate accordingly.</p>	<p>The recommendation for an enforced shut down of equipment should marine mammals enter the operational zone is included as an example in Irish guidelines. However, this is used for areas of high residency. Since the survey is being carried out in an area of open sea it is felt that the application of this mitigation measure would be deemed as taking the precautionary principle too far, given the level of activities proposed.</p>
<p>Private Individual</p>	<p>While the Inishkea Survey will provide information that may be of significance to future exploration and potential production activities, it is a standalone project and not part of a larger programme of development that will create a requirement or imperative for future developments to be licensed. Any future plans or projects (developments) will be subject to separate/new authorisations. Any potential indirect, secondary or cumulative effects (including climate change) associated with future developments (i.e. further exploration or appraisal phase / oil and gas production) should any future developments arise, will be considered when any necessary consents for the activities are being sought.</p> <p>The paragraph above is sufficient to refuse this application for the following reasons:</p> <p>(i) It goes against common sense and is unacceptable that any reasonable person that this application can first, be described and second, assessed as a 'standalone' project; it</p>	<p>The aims and objectives of the Inishkea survey are considered reasonable for the following reasons:</p> <ul style="list-style-type: none"> <li>• Higher resolution data will be available from the site survey compared to the more general data sets.</li> <li>• The seabed conditions may have changed since the more general data sets were completed.</li> <li>• Infrastructure is not always located where they are meant to be and therefore it is important that these are accurately located.</li> <li>• New anthropogenic or</li> </ul>

Consultee	Project Specific Comments	Response
	<p>can claim no rationale other than as part of proposed/planned fossil fuel development/production – there can be no ‘may’ about it. Should that be claimed, against all logic, then why it is taking place at that specific location – why not in an area that is not a potential fossil fuel prospect?</p> <p>(ii) The stated aim of the survey is set out below:</p> <p>a. Accurately determine water depths and seabed/subsurface geology at the site (<i>This should already be established or establishable – through Marine Survey Ireland for example, without recourse to this particular proposed action which is not a plan/project in and of itself</i>)</p> <p>b. Identify any seabed obstructions and confirm the locations of any existing infrastructure (such as pipelines, wellheads) (<i>Only pipelines, wellheads out there are Corrib’s, again unnecessary</i>)</p> <p>c. Assist in the identification of all geo-hazards and geological conditions that may be of significance to future drilling activities [Drilling activities do not form part of this project and are therefore not assessed in this report]. This may include shallow gas, channelling, faulting and other geological features that may be of significance (<i>can be read as admission of future drilling intent, otherwise this ‘standalone survey’ wouldn’t be happening; note shown in [] above is arrogant, dismissive and contemptuous of Irish and EU environmental law as well as contrary to common sense</i>)</p> <p>d. Provide information on the cultural potential of the survey area, including the location of any shipwrecks or other underwater cultural heritage features (<i>can wait, not essential for anything other than, in this instance, intended fossil fuel exploration/production</i>)</p> <p>e. Identify and delineate Annex I habitats (as defined in the EC Habitats Directive 92/43/EC) or other sensitive habitats and identify any areas or environmental interest (<i>surely these habitats are already identified and delineated, otherwise they would be habitats and, in the alternative, it is not the function of a fossil fuel</i></p>	<p>natural seabed obstructions need to be identified and accurately located.</p> <ul style="list-style-type: none"> <li>The spatial extent of Annex I habitats will change over time and requires accurate positioning to ensure protection.</li> </ul>

Consultee	Project Specific Comments	Response
	<p><i>company to do so)</i></p> <p>f. Establish environmental baseline to establish a benchmark for ongoing environmental monitoring as per OSPAR guidelines (<i>as above plus no need for baseline and/or benchmark activities other than fossil fuel 'development' related</i>)</p> <p>g. Acquire sediment samples for determination of physico-chemical baseline conditions (<i>can be done in any comparable area but again not necessary other than with purpose of plan/project which is much more than stated</i>)</p>	
Private Individual	Extract Table 2.12 Screening for EIA and ERA Report. The proposed survey GWA overlaps the western-most end of the Corrib gas pipeline. Pipeline inspection survey. Vermillion intend to undertake pipeline inspection survey at the Corrib Gas Field pipeline and infrastructure in 2019. The proposed survey programme involves a geophysical and visual survey on the subsea infrastructure between the Corrib Field and the landfall. The information provided above is incomplete – the full range of applied-for works is accessible at [link to DCCAE website provided].	The applicant has provided additional information in response to the Further Information Request.
Private Individual	Table 2.3 Fish Species of Conservation Concern which may be present in the vicinity of the proposed Inishkea Survey. Applying the Precautionary Principle, the list above should, of itself, be sufficient to refuse this application – the frightening status of so many species is horrendous; no amount of assessment, mitigation or conditioning can alter that status unless fossil fuels are, as of now, left in the ground. The paradigm has indeed shifted.	Mitigation proposed for the protection of marine mammals will additionally provide mitigation to noise sensitive fish species by default.
Private Individual	Both the EIA and AA Screening Reports are essentially similar and, in my view, presented in an attempt to tick legally required 'boxes' together with impressing through bulk rather than pertinent content those who may not be familiar with such documents. I note there is no non-technical summary and offer the view that it may not have been possible to produce such a document while attempting to maintain the fiction that this application is for a standalone plan/project.	There is no requirement to provide a non-technical summary with the documentation submitted by the applicant.  The adequacy of the documentation submitted by the applicant is reviewed and reported by this series of reports to inform the EAU screening opinions and Appropriate Assessment (as applicable).
Gluaiseacht for Global Justice	According to a 2017 journal paper published in Nature Ecology and Evolution has shown that seismic surveys can cause a two to three-fold increase in mortality in plankton populations and could kill zooplankton at a distance of 1.2 km ( <a href="https://www.nature.com/articles/s41559-017-0195">https://www.nature.com/articles/s41559-017-0195</a> ).	Mitigation proposed for the protection of marine mammals will additionally provide mitigation to zooplankton by default.



Consultee	Project Specific Comments	Response
	<p>The site survey application has said that it will employ Marine Mammal Observers (MMOs) and that "Airgun operations will not will not commence if marine mammals are detected within 1,000 m radius of the sound source". However, the Applicant hasn't stated anything about Zooplankton observers and what will happen if zooplankton is in the radius of 1.2km of the sound source. There is also widespread further anecdotal evidence of the damage that these seismic surveys cause to marine life in the area of the survey such as this interview with a Norwegian fisherman on the after effects of seismic surveys on the area that he fished: <a href="https://www.youtube.com/watch?v=nGfoZ7WkxIM">https://www.youtube.com/watch?v=nGfoZ7WkxIM</a></p> <p>No mitigation measures have been put in place for the zooplankton decimation that will occur if this seismic survey is allowed to proceed.</p> <p>The EIA quotes a study supported by the Joint Industry Program of the Oil and Gas Producers Association to justify their conclusion that there was "No likely significant effects" on the different species types but even quote that study as saying "zooplankton and ichthyoplankton can be killed within a distance of less than 2 m and sub lethal injuries expected within 5 m."</p>	
Gluaiseacht for Global Justice	<p>It has been shown that seismic surveys disrupt fish also, yet there is no mention of a Fish Observer in the application. The Pre-survey Fishery Assessment states that "Recommendations have been made to mitigate any possible adverse interaction between the survey and fisheries." But no recommendations have been made to mitigate any possible adverse interaction between the survey and fish. The applicant hasn't provided a list of species or quantities that it is willing to decimate for profit and which ones not. Therefore, the application is incomplete.</p>	<p>Mitigation proposed for the protection of marine mammals will additionally provide mitigation to noise sensitive fish species by default.</p>
Not Here, Not Anywhere, Futureproof Clare, Love Leitrim and Friends of the Earth Ireland	<p>The seafood industry is already suffering from biodiversity loss with key species like Atlantic Cod, Atlantic Salmon and Bluefin Tuna in Irish seas now on the International Union for the Conservation of Nature endangered list. Nature Journal has shown that one blast from oil and gas exploration alone kills 64% of zooplankton – the basis of the marine ecosystem – for up to 0.7 miles.</p> <p>To carry out such surveys, ships tow multiple airgun arrays that emits thousands of high decibel explosive impulses to map the seafloor. The auditory assault from seismic surveys has been found to damage or kill fish eggs and larvae and impair the hearing and health of fish, making them vulnerable to predators and leaving them unable to locate prey or mates or communicate with each other. These disturbances disrupt and displace important migratory patterns, pushing marine life away from suitable habitats like nurseries and foraging, mating, spawning and migratory corridors. In addition, seismic surveys have</p>	<p>A Fisheries Assessment has been undertaken and submitted by the applicant. Adequate mitigation is proposed to ensure that any effects on fishing activity are minimised as low as reasonably practicable. The survey proposed by the applicant is of short duration and the mobile nature of the fishing vessels means they will be able to fish elsewhere for the period of the survey.</p> <p>Multiple air guns are not being proposed by the applicant.</p>

<b>Consultee</b>	<b>Project Specific Comments</b>	<b>Response</b>
	been implicated in whale beaching and stranding incidents.	
Not Here, Not Anywhere, Futureproof Clare, Love Leitrim and Friends of the Earth Ireland	The routine operations associated with offshore drilling produce many toxic wastes and other forms of pollution. Each drill well generates tens of thousands of gallons of waste drilling muds (materials used to lubricate drill bits and maintain pressure) and cuttings. Drilling muds contain toxic metals such as mercury, lead and cadmium that may bioaccumulate and biomagnify in marine organisms, including in our seafood supply. The water that is brought up from a given well along with oil and gas, referred to as "produced water", contains a toxic brew of benzene, arsenic, lead, toluene and varying amounts of radioactive pollutants. Each oil platform can discharge hundreds of thousands of gallons of produced water daily, contaminating both local waters and those down current from the discharge. An average oil and gas exploration well spews roughly 50 tons of nitrogen oxide, 13 tons of carbon monoxide, 6 tons of sulphur oxides and 5 tons of volatile organic chemicals. The seismic disturbance from drilling can also cause deafness and internal bleeding in whales and dolphins.	This application does not include any drilling (exploratory or otherwise). Any such subsequent application for drilling by the applicant would be subject to separate review under the relevant EIA and Habitats Directives.  Furthermore, the potential effects of future drilling (exploratory or otherwise) has been considered in the Irish Offshore Strategic Environmental Assessment (IOSEA) 5 Appropriate Assessment.
Not Here, Not Anywhere, Futureproof Clare, Love Leitrim and Friends of the Earth Ireland	Oil spills have disastrous economic and environmental consequences and volume is a limited measure of damage or impact. Even smaller spills have already proven disastrous to ecosystems, such as the Exxon Valdez oil spill which spilled 10.8 million US gallons of crude oil into Alaskan waters. This eventually impacted 1,300 miles of coastline and killing hundreds of thousands of animals including seals and orcas. In 2011 a serious spill took place in an oilfield majority owned by the state-owned China National Offshore Oil Corporation (CNOOC), in the Bohai sea of North East China. This caused total economic losses of CNY 12.56 billion (€1.6bn), and polluted 840 square km of clean water.	This application does not include any drilling (exploratory or otherwise) and therefore there is no risk of significant oil spills as a result of the surveys proposed. Any such subsequent application for exploratory drilling by the applicant would be subject to separate review under the relevant EIA and Habitats Directives.
Private Individual	In the preparation of this submission I accessed the website of the Applicant, Europa Oil and Gas and to me, I suggest, to any reasonable reader it is clear beyond doubt that the purpose of the baseline site survey to which this application applies it indeed part of a much larger plan or project which is to produce gas and tie it into the existing Corrib infrastructure – the only caveat as far as the company is concerned in speaking to its shareholders is that of being 'subject to negotiation and cooperation with the infrastructure owners' there is no mention of being subject to any planning or regulatory consents and that, I believe, makes this application insidious.	The current application is for site survey only. Any future work will be subject to the granting of necessary consents by the Minister.
Not Here, Not Anywhere	We note that the original application referred to the survey taking place in 2019 with expected start date 15 July 2019. The current position is that the screening may be postponed until 2020 (or may go ahead this year). While the AA/NIS and pre-survey assessments	The additional information provided by the applicant makes consideration of the possibility that the survey would be undertaken in

<b>Consultee</b>	<b>Project Specific Comments</b>	<b>Response</b>
	do consider the possibility that the survey might take place in 2020, the screening for EIA and ERA report only considers the period of 2019. It does not appear from its contents that other interactions with other offshore activity (of which more below) that the conclusions are applicable to 2019 but we believe that this should be confirmed by those who compiled the original report. In addition, we note that the Pre-survey fishing assessment only mentions activity taking place in 2019. We think it is reasonable that this aspect should be revisited in view of the potential later survey date. Neither of these actions would be onerous.	2020. The Pre-survey fishing assessment is considered to be representative of both 2019 and 2020.
Not Here, Not Anywhere	We note, with approval, that Europa has undertaken to consider the effect of greenhouse gas emission on later stages of any follow-on work in the Inishkea area. Given that changes of ownership are common in offshore exploration licences we believe that this should be made a condition of approval. As Europa has volunteered this unilaterally it would be a light condition.	The current application is for site survey only. Any future work will be subject to the granting of necessary consents by the Minister. The applicant has committed to assessing the risks to climate change as part of the consent application for each stage. Furthermore, the potential effects of future drilling (exploratory or otherwise) has been considered in the Irish Offshore Strategic Environmental Assessment (IOSEA) 5 Appropriate Assessment.
Not Here, Not Anywhere	As we have noted with regard to other applications it appears that while recommendations are made in the Pre-survey fishing assessment, it is not explicitly undertaken by Europa that these will be carried through. Europa should be asked to do so. Again this is a light requirement.	Recommendations of the Pre-survey fishing assessment will be included, should consent be granted by the Minister.
Not Here, Not Anywhere	We also believe that the requirements with regard to the mitigation of the possible effects on marine mammals should be part of the application.	Recommendations of any mitigation measures in regards to marine mammals will be included, should a licence be granted by the Minister.
Not Here, Not Anywhere	We note that Europa has stated that it will look at the sites it intends to sample from and if there is reason to not sample there it will sample elsewhere. This we believe to be a good practice but would recommend that photographs be taken at the time and that these be published as a demonstration of good faith after the survey has been completed.	The applicant has confirmed that prior to undertaking seabed sampling operations, a visual inspection will be undertaken using AUV mounted cameras and/or drop down video.
Not Here, Not Anywhere	Considerable attention has been paid to the issue of interaction with other offshore operations. However, the fact that Europa is in contact with other operators does not rule out the potential for interaction. We would envisage a case of corporate chicken being	An appropriate level of mitigation is proposed by the applicant in regard to managing potential effects from concurrent survey

<b>Consultee</b>	<b>Project Specific Comments</b>	<b>Response</b>
	played out. Survey vessels are expensive and their time is money. The potential for interaction would be substantially reduced if the permissions were time boxed to tighter periods than whole years. Therefore if the Minister were minded to give approval we respectfully suggest that permission should be restricted to a more tightly defined period.	operations.
Private Individual	In case C-323/17 People Over Wind and Peter Sweetman v Coillte, the CJEU ruled that mitigation measures could not be taken into account at screening stage of an appropriate assessment. The mitigation proposed does not implement a strict protection regime for cetaceans and no evidence is provided of efficacy. Mitigation which has no effect cannot be used to justify licensing oil and gas development. Baseline data is not available, has never been collected/commissioned to make assessments on several species including baleen and beaked whales off Ireland's west coast in to Corrib gas and Europa oil footprint.	<p>This document is an EIA Screening Determination and not an Appropriate Assessment.</p> <p>An appropriate level of mitigation is proposed by the applicant in regard to the survey being undertaken.</p> <p>The applicant has confirmed in response the Further Information Request that no start-up will occur in the hours of darkness. Sound-producing survey activities will only be commenced in daylight hours where effective visual monitoring, as determined by the MMO, can be achieved.</p> <p>It should be noted that should any marine mammals enter the operational area whilst surveying is underway, then it is accepted that they have entered the area with knowledge of the noise levels and therefore a shutdown of equipment is not required.</p>
Private Individual	<p>Comments provided relating to applications from Europa, Vermillion and CNOOC:</p> <p>PAD routinely accept Environmental reports concluding that there will be no significant impact based on the information available. If baseline data is not commissioned by developers how can any assessment be made of significant effect. Any assessment on a lack of data to assess a significant effect is worthless and un-scientific.</p> <p>A BACI survey is required in both footprints to assess the abundance and density of beaked and baleen whales in the Slyne basin prior to imposing and an oil and gas development footprint. If baseline data is not available how can a conclusion stating, "in relation to the proposed surveys there will be no significant effects on the environment"? A cetacean survey on a basin scale/project footprint is required prior to licensing</p>	<p>The adequacy of information available upon which to base this assessment is reviewed in this report and has been based on best scientific knowledge.</p> <p>A specific cetacean survey is not required in order to conclude the EIA Screening Determination.</p>

<b>Consultee</b>	<b>Project Specific Comments</b>	<b>Response</b>
	<p>further oil and gas exploration/Corrib/Europa.</p> <p>The DCCAE/PAD regulator must apply the precautionary and polluter pays principle and request developers to do a baseline data surveys of Annex IV cetacean abundance and density surveys in basin scale oil and gas exploration developments. This in turn will provide employment for Irish citizens and scientists to do this work. As oil and gas development is tax deductible by government policy this can be done at little cost to the Irish State and bring in revenue from monitoring work/surveys by Irish companies. Why does PAD fail to request developers do cetacean surveys in work programs?</p> <p>Will PAD explain what evidence they have to continue their policy of ignoring the question which must be asked, how can whales and dolphins, which depend on acoustics for communication, food and reproduction, not be significantly affected by a seismic survey? Particularly when a leading cetacean scientist has called the use of airguns "the most severe acoustic insult to the marine environment short of naval warfare." Can PAD explain why no EIA ever been done for a seismic survey in Ireland? The precautionary principle and the polluter pays principle are ignored by PAD.</p>	
	<p>Figure 2.4 EIA and ERA Screening Report shows the proximity of the Inishkea prospect/LO to the Corrib production infrastructure. Given, as stated – and not by accident – that the closest point of the Inishkea LO area is just 4 km from Corrib but 63 km from Inishkea South, this is extremely worrying. Any reasonable, but uninformed, person would easily conclude that, rather than build a 63 km pipeline and all associated works on Inishkea South, why not just hook into the Corrib infrastructure. Not that simple and not that allowable under EU environmental law. The Corrib Gas Project is a standalone plan/project and, it is my belief, claimed consents were assessed for just Corrib alone, which is now extant and therefore not retrospectively assessable – and some of these consents continue to be challenged through the superior courts</p>	<p>The application in hand is for geophysical and environmental survey (seabed and shallow soils) and environmental baseline survey. The comments regarding potential future production and export of gas via the existing Corrib gas pipeline are beyond the scope of this report.</p>

### 3. PROJECT DETAILS

Table 3.1 provides a template for summarising information relating to a proposed project, when an EIA Screening Report for Seismic/ Geophysical survey is submitted for review.

**Table 3.1: Application Details**

Project Title:	Inishkea Site Survey
Applicant:	Europa Oil & Gas (Inishkea) Limited
Exploration Licence Reference:	Licensing Option 16/20, Blocks 18/19 and 18/20
Date EIA Screening Request Received (Respond within 90 days):	15 May 2019
<p><b>Brief Project Description:</b></p> <p>Europa Oil &amp; Gas (Inishkea) Limited propose to undertake a geophysical and environmental baseline survey to inform a habitats assessment in the Inishkea area in Blocks 18/19 and 18/20, located approximately 63 km off the west coast of County Mayo, Ireland.</p> <p>The survey area would comprise an 80 km<sup>2</sup> working area within which all survey activities would take place and includes the currently proposed location of a future well, though no drilling forms part of this licence application. The working area also includes space for vessel manoeuvring, survey line turns and equipment deployment/recovery. Water depths within the greater working area range from around 350 m to 700 m below mean sea level.</p> <p>The geophysical survey is expected to comprise the following activities:</p> <ul style="list-style-type: none"> <li>• Vessel-mounted or vessel-towed equipment:                         <ul style="list-style-type: none"> <li>- Dual Frequency Side Scan Sonar (towed fish, Edgetech EM400 or similar, 100 kHz/500 kHz or similar)</li> <li>- Single-beam Echosounder (hull-mounted Kongsberg EA400 or similar, 35 kHz to 200 kHz or similar)</li> <li>- Multi-beam Echosounder (hull-mounted Swathe Multibeam Kongsberg EM710 or similar, 70 kHz to 100 kHz or similar)</li> <li>- Sub-Bottom Profiler (hull-mounted pinger or chirp system, Edgetech 3300 or similar, 1 kHz to 16 kHz or similar)</li> <li>- Sub-bottom profiler (1 x 10 cu. in. airgun)</li> <li>- Ultra-short baseline (USBL) (topside, hull mounted HiPAP 502 USBL or similar)</li> <li>- Magnetometer (towed fish, Geometrics G882 caesium vapour or similar)</li> </ul> </li> <li>• Autonomous or Hybrid Underwater Vehicle (UAV) mounted equipment:                         <ul style="list-style-type: none"> <li>- Multi-beam Echosounder (AUV-mounted Simrad EM2040 (or similar), 300 kHz or similar)</li> <li>- Sub-bottom profiler (AUV-mounted Edgetech 2205 Chirp (or similar), 1 kHz to 16 kHz or similar)</li> <li>- Side Scan Sonar (AUV-Mounted Tritech SeaKing (or similar), Dual frequency, 200 kHz/550 kHz or similar)</li> <li>- USBL (seabed, HiPAP 502 USBL or similar)</li> </ul> </li> <li>• Seabed Sampling Equipment:                         <ul style="list-style-type: none"> <li>- AUV-mounted stills/video camera</li> </ul> </li> <li>• Seabed Imaging Equipment:                         <ul style="list-style-type: none"> <li>- Box corer/Grab sampler/Gravity corer</li> </ul> </li> </ul> <p>The environmental baseline survey will comprise the following activities:</p> <ul style="list-style-type: none"> <li>• Benthic sampling using a box corer and/or grab sampler at 16 stations within the site survey area. Approximately five reference stations will also be sampled located at least 2 km from the proposed site. Macrofaunal samples will be processed and preserved on recovery ahead of onshore analysis. Sediment sample will be prepared and stored in preparation for onshore analysis to include: particle size analysis, total organic carbon, total organic matter, hydrocarbons</li> </ul>	

and metals.

- Gravity cores will be acquired to ground-truth shallow soils and for basic offshore geotechnical testing (including pocket penetrometer). Cores will be recovered and cut offshore in preparation for storage and potential future geotechnical testing.
- Benthic sampling using core and grab samples will result in disturbance to the seabed. This disturbance will be temporary and limited to the footprint of the core and grab samples. The footprint of the grab and corer samplers to be used will be 0.1 m<sup>2</sup> to 1 m<sup>2</sup>, with maximum sediment penetration of 0.5 m. The footprint of the gravity corer is relatively small and limited to the core barrel that has a diameter of 110 mm. Sediment penetration of the gravity corer is approximately 2 m to 4 m.
- Prior to undertaking sediment sampling, the stations will be visually inspected using AUV mounted cameras and/or drop down camera systems to ensure the area to be sampled does not support sensitive habitats. Sampling will not be undertaken where sensitive habitats are identified.
- Mapping of known shipwrecks and geophysical data gathered during the survey will ensure that no seabed sampling activities will occur in the vicinity of any features of historic or cultural importance.

During survey operations, the vessel will be required to maintain position at stations for periods of time or will be travelling at approximately 3.5 to 5 knots along rectilinear routes. To maintain the integrity of the survey and positioning of the survey equipment, the vessel will be limited in its ability to manoeuvre. However, should it be required the vessel will be able to move away on short notice.

A total of 40No. provisional survey lines are proposed:

- 29No. parallel 5,500 m survey lines orientated in a south-west to north-east direction with a line spacing of 150 m;
- 11No. parallel 4,500 m survey lines orientated in a south-east to north-west direction with a line spacing of 500 m.

Provisional benthic habitat transects are provided relative to the approximate location of the well top-hole and relief well. These are proposed to comprise:

- 13No. 100 m drop down camera transects, with 8No. orientated south-east to north-west and the remaining 5No. orientated south-west to north-east;
- 4No. 500 m AUV transects, with 2No. orientated south-east to north-west and the remaining 2No. orientated south-west to north-east; and
- 3No. optional extended AUV transects; with 1No. 5,500 m line orientated south-west to north-east and 2No. 4,500 m lines orientated south-east to north-west.

Should the appointed vessel not be equipped with an AUV, the AUV transect lines will be investigated using the vessel mounted geophysical equipment listed above. Features of note along transect lines will be identified using geophysical data will be visually inspected using drop down camera system deployed from the vessel.

The estimated duration of the survey is 14 working days and is expected to take place in the period between May and late November 2019. If the survey has not commenced or concluded in 2019, operations will be undertaken sometime between early February 2020 and late November 2020. The exact survey vessel to be used is the MV Fugro Venturer. An indicative list of survey equipment is given as this may potentially vary depending upon the vessel used, though the specifications will be similar (or the same).

## 4. SCREENING CHECKLIST

### 4.1 Determining whether a Project should be subject to an EIA

Under Article 4(1) of the EU Directive on assessment of the effects of certain public and private projects on the environment (Environmental Impact Assessment) Directive (2011/92/EU), as amended by Directive (2014/52/EU) (herein referred to as 'the EIA Directive'), projects listed in Annex I of the EIA Directive shall be made subject to an Environmental Impact Assessment, unless an exemption is granted by the Irish Government (as the member state), due to exceptional circumstances.

Under Article 4(2) of the EIA Directive, member states must determine whether projects listed in Annex II of the Directive shall be made subject to an EIA through either case-by-case examination and / or thresholds or criteria set by the member state. Table 4.1 is a template that is used to determine whether a project requires an EIA under the EIA Directive.

In Ireland, for oil and gas exploration activities, the EIA Directive is implemented through the European Union (Environmental Impact Assessment) (Petroleum Exploration) Regulations 2013 amended by the European Union (Environmental Impact Assessment) (Petroleum Exploration) (Amendment) Regulations 2019 (S.I. No 124 of 2019). (the 'EIA Regulations'). Regulation 3(1) of the EIA Regulations requires that where a licence holder proposes to undertake "activities" under the licence, the holder shall apply to the Minister for permission to undertake the activities. Regulation 3(1B) provides that where such an application is made, the EAU shall make a determination as to whether the activities the subject of the application would, or would not, be likely to have significant effects on the environment.

Table 4.1 sets out the first step in determining whether a project requires an EIA under the EIA directive.

**Table 4.1 Checklist – EIA Screening for Seismic/ Geophysical Survey or Exploratory Drilling Project**

<p>a) Is the project listed on Annex I of the EIA Directive?</p> <ul style="list-style-type: none"> <li>• If Yes, EIA is required for the project.</li> <li>• If No, EIA may be required for the project - Proceed to Section b)</li> </ul>	<p>No</p>
<p>b) If No - Is the project listed on Annex II of the EIA Directive?</p> <ul style="list-style-type: none"> <li>• If Yes, EIA may be required for the project - proceed to Sections 4.2 and 4.3.</li> <li>• If No, EIA is not required for the project.</li> </ul>	<p>No, however, the European Union (Environmental Impact Assessment) (Petroleum Exploration) Regulations 2013 require that holders of petroleum exploration licences or petroleum prospecting licences apply to the Minister for permission to undertake "activities" under the licence. Where such an application is made, an assessment is required as to whether the activities are likely to have significant effects on the environment by virtue, inter alia, of their nature, size and location.</p>



#### 4.2 Information to be provided by the Developer on the projects listed in Annex IIA of the EIA Directive

Under Article 4(4) of the EIA Directive, a minimum amount of information is required to be provided by the Developer on the characteristics of the project and its likely significant effects on the environment.

The checklist provided in this section (Table 4.2) confirms whether the screening report submitted for a project listed on Annex II of the EIA Directive provides the required information.

The developer is required by Article 4(4) to consider (where relevant) the available results of other relevant assessments on the effects of the environment carried out pursuant to other Union legislation other than the EIA Directive.

**Table 4.2: 'Information to be provided' criteria, as set out in Annex IIA of the EIA Directive, meet the minimum requirements.**

<b>Does the request for screening determination provide sufficient information, with particular regard to:</b>	<b>Yes / No</b>	<b>Briefly summarise whether the applicant meets the minimum requirements:</b>
a) A description of the project including in particular: (a) A description of the physical characteristics of the whole project and, where relevant, the demolition works. (b) A description of the location of the project, with particular regard to the environmental sensitivity of geographical areas likely to be affected.	Yes	The descriptions of the physical characteristics of the project and the location of the project are adequately described. Information provided includes: <ul style="list-style-type: none"> <li>• the specifics of all the equipment that will potentially be used;</li> <li>• the location of the project;</li> <li>• the physical environment;</li> <li>• the biological environment; and</li> <li>• the socio-economic environment.</li> </ul>
b) A description of the aspects of the environment likely to be significantly affected by the project.	Yes	An environmental risk assessment and EIA Screening provides an adequate description the environmental baseline in terms of physical, biological and socio-economic environment.
c) A description of any likely significant effects, to the extent of the information available on such effects, of the project on the environment resulting from: (a) The expected residues and emissions and the production of waste, where relevant; (b) The use of natural resources, in particular soil, land, water and biodiversity.	Yes	The environmental risk assessment and EIA Screening report produced by the applicant defines inherent risks and associated significance in relation to expected residues and waste (i.e. wastewater, solid waste and any unplanned events such as oil spills) as well as emissions (i.e. underwater noise / vessel emissions). It concludes that no significant adverse effects are likely, with sufficient baseline and assessment information provided to support this conclusion.  No natural resources would be used for the proposed activities as they comprise temporary short-term geophysical and environmental surveying.
d) The criteria of Annex III shall be taken into account,	N/A	Although not referred to directly, criteria in Annex III were taken into account when compiling the

Does the request for screening determination provide sufficient information, with particular regard to:	Yes / No	Briefly summarise whether the applicant meets the minimum requirements:
where relevant, when compiling the information in accordance with points 1 to 3.		information referred to above. See Section 4.3 below for further details

### 4.3 Criteria to determine whether a project listed on Annex II of the EIA Directive is likely to have a Significant Effect on the Environment

Under Article 4(3) of the EIA Directive, when determining whether a project listed on Annex II requires EIA, the Irish government (as the member state) must take into account the relevant selection criteria set out in Annex III of the Directive.

Annex III criteria is grouped into 3 main categories; 'characteristics of the projects', 'layout of the projects' and 'type and characteristics of the potential impact' of the projects.

The checklists provided in this section (Table 4.3 – 4.5) have been developed to allow the assessor to ascertain whether a screening report submitted for a project listed on Annex II of the EIA Directive meets the requirements for a screening opinion to be determined and determine whether the project is likely to have any significant effects on the environment.

#### 4.3.1 Characteristics of Project

Table 4.3 summarises the consideration given by the applicant to the 'Characteristics of the Projects' in the screening report.

**Table 4.3: 'Characteristics of the Project' criteria, as set out in Annex III of the EIA Regulations**

Does the request for screening determination provide sufficient information, with particular regard to:	Yes / No	Briefly summarise whether the applicant meets the requirements:
a) The size and design of the whole development;	Yes	The size of the proposed development is described in terms of the survey area and wider working area. The design is described in terms of the type of survey activities proposed and the survey methodology which included details on the number of samples and volume of sediment to be removed.
b) Cumulation with other existing or approved developments;	Yes	Other nearby existing and proposed developments are identified, and potential interactions and cumulative effects considered in relation to the project are listed below: <ul style="list-style-type: none"> <li>• Vermillion Corrib gas field and gas pipeline acoustic survey</li> <li>• CNOCC – Slyne / Erris Basin site survey</li> <li>• Europa – Porcupine Basin site survey</li> <li>• CNOCC – exploration drilling Porcupine Basin</li> <li>• Exola – Barryroe site survey</li> </ul>

<b>Does the request for screening determination provide sufficient information, with particular regard to:</b>	<b>Yes / No</b>	<b>Briefly summarise whether the applicant meets the requirements:</b>
		<ul style="list-style-type: none"> <li>• HAVFRUE – construction of telecommunications cable (no geophysical surveys proposed)</li> <li>• PSE Kinsale Energy and PSE Seven Heads Limited– decommissioning of Kinsale Head and Seven Head facilities</li> <li>• PSE Kinsale Energy – decommissioning of certain facilities within Kinsale Head lease area</li> </ul> <p>The cumulative impact assessment assumes that other seismic surveys known to be proposed will be separated by at least 100 km should the surveys occur simultaneously, preventing any cumulative effects.</p>
c) The use of natural resources, particularly land, soil, water and biodiversity;	Yes	The information provided by the applicant describes the limited use of natural resources.
d) The production of waste;	Yes	<p>The information provided by the applicant describes the types of wastes that would be generated and refers to alignment with MARPOL requirements.</p> <p>It should also be noted that the applicant intends to implement a Waste Management Plan (WMP), describing all operational procedures related to the treatment, disposal and management of generated wastes, and giving consideration to minimising the total amount of waste generated and controlling its eventual disposal.</p>
e) Pollution and nuisances;	Yes	<p>The types of pollution and nuisances that would be generated (light from vessel/air emissions from ship's engines/incinerator and noise from geophysical survey activities) are identified and (in the case of noise) are assessed.</p> <p>It should be noted that the applicant intends to implement a Shipboard Oil Pollution Emergency Plan (SOPEP) that will describe the response arrangements for accidental release of hydrocarbons.</p>
f) The risk of major accidents and / or disasters, which are relevant to the project concerned (including those caused by climate change);	Yes	<p>Given the nature of the proposed development there is limited risk of major accidents or disasters (principally the risk of fuel/chemical leaks or dropped objects from the survey vessel). Unplanned events are considered in the environmental risk assessment at a level of detail appropriate to the proposed development and mitigation measures are identified to reduce the risk of such events to As Low As Reasonably Practicable (ALARP).</p> <p>Information in regard to the potential for climate change effects has been provided by the applicant,</p>

<b>Does the request for screening determination provide sufficient information, with particular regard to:</b>	<b>Yes / No</b>	<b>Briefly summarise whether the applicant meets the requirements:</b>
		along with a commitment to consider the potential climate change effects in future licensing procedures.
g) Risks to human health (e.g. due to water contamination or air pollution).	Yes	The potential health risks of the proposed have been assessed competently both in terms of the likely impacts and their potential effects on human resources and natural resources and the quality of the environment. Given the nature of the proposed development there is limited risk to human health (principally related to the handling of fuel/chemicals on the survey vessel).

#### 4.3.2 Location of Project

The 'Location of Projects' Criteria, as set out in Annex III of the EIA Directive, considers the environmental sensitivity of geographical areas likely to be affected by projects with particular regard to the specified criteria.

Table 4.4 provides a template to determine whether a Screening Report submitted by an applicant for a project listed on Annex II of the EIA Directive, meets the requirements for the 'Location of the Projects' Annex III criteria, required for the assessor to determine an EIA Screening Opinion.

**Table 4.4: Checklist to determine whether 'Location of the Projects' criteria, as set out in Annex III of the EIA Directive, meet the minimum requirements to determine a Screening Opinion.**

<b>The environmental sensitivity of geographical areas likely to be affected by the project are considered in the Screening Report, with particular regard to:</b>	<b>Yes / No</b>	<b>Briefly summarise whether the applicant meets the requirements for a screening opinion:</b>
a) The existing and approved land use;	Yes	The existing seabed is described in such detail as is available at present (topography and water depths) and it is noted that some of the objectives of the proposed development are to conduct geophysical surveys and benthic sampling to improve the available baseline data. The use of this area of the sea by other users (e.g. shipping lanes and fisheries) is adequately described. A fishery assessment is provided describing the existing use of the area by fishing vessels, identifying likely interactions and proposing mitigation measures to manage those interactions.
b) The relative abundance, availability, quality and regenerative capacity	Yes	The relative abundance, availability, quality and regenerative capacity were adequately described where applicable in the baseline and assessment of environmental risks.

<b>The environmental sensitivity of geographical areas likely to be affected by the project are considered in the Screening Report, with particular regard to:</b>	<b>Yes / No</b>	<b>Briefly summarise whether the applicant meets the requirements for a screening opinion:</b>
of natural resources (including soil, land, water and biodiversity) in the areas and its underground;		
c) The absorption capacity of wetlands, riparian areas & river mouths;	N/A	The project location 63 km offshore means that this criterion is not applicable.
d) The absorption capacity of coastal zones and marine areas;	Yes	<p>There is no specific reference made to the absorption capacity of the marine area, but the current status and sensitivity of marine areas are considered to be described adequately.</p> <p>Reference is made to the fact that seabed carbonate mounds have been identified along the shelf edge to the north and south of the proposed survey area and that these mounds are generally linked to the development and growth of cold water corals.</p> <p>Additional information has been provided by the applicant to rule out the potential for significant effects. It is noted that information is provided concerning mitigation measures of there being protected habitats in areas where seabed samples are to be taken and that video/visual observations will be undertaken prior to sampling.</p>
e) The adsorption capacity of mountain and forest areas;	N/A	The project location 63 km offshore means that this criterion is not applicable.
f) The absorption capacity of nature reserves and parks;	N/A	The project location 63 km offshore means that this criterion is not applicable.
g) The absorption capacity of areas classified under national legislation (e.g. Natura 2000 area);	Yes	The location and conditions of the proposed development relative to Natura 2000 sites is adequately described.
h) The absorption capacity of areas in which there has already been a failure to meet the	Yes	There is no specific reference made to the absorption capacity of areas considered relevant to the proposed development, but their current status, including in relation to quality are considered to be adequately described.

<b>The environmental sensitivity of geographical areas likely to be affected by the project are considered in the Screening Report, with particular regard to:</b>	<b>Yes / No</b>	<b>Briefly summarise whether the applicant meets the requirements for a screening opinion:</b>
environmental quality standards, laid down by legislation and relevant to the development or in which it is considered that there is such a failure;		
i) The absorption capacity of densely populated areas;	N/A	The project location 63 km offshore means that this criterion is not applicable.
j) The absorption capacity of landscapes and sites of historical, cultural or archaeological significance.	Yes	There is no specific reference made to the absorption capacity of landscapes / sites of historical, cultural or archaeological significance, but their baseline status is adequately described with known wrecks shown graphically.  It is noted that should potential wrecks be located they will be ground truthed using a camera and no seabed samples taken in the area. In addition, an archaeological assessment will be undertaken.

#### 4.3.3 Type and characteristics of the Potential Impact

The 'type and characteristics of the potential impact' criteria, as set out in Annex III of the EIA Directive, consider whether a project is likely to have a significant effect on the environment. Likely significant effects are considered in relation to the criteria set out in Tables 4.3 and 4.4, with additional regard to the impact on the project factors specified in Article 3(1) of the EIA Directive: population and human health; biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; Land, soil, water, air and climate; material assets and cultural heritage and the landscape, in addition to the interaction between these factors.

Table 4.5 provides a template to determine whether a Screening Determination could be made in regard to the type and character of the potential impact of a project.

**Table 4.5: Template to Determine Screening Opinion for Type and Character of the Potential Impact of a Project**

Factor (as specified in Article 3(1) of the EIA Directive)	Briefly summarise the environmental receptor / activity interactions considered:	Character of impact		Does applicant conclude a Significant Effect is likely? (Yes/No/ Unknown?)
		Description of character of impact	Does the screening report provide information on character of impact?	
Population and human health	<p><b>Physical presence of vessel and equipment – obstruction to other sea users (fishing vessels and shipping)</b></p> <p>Key activities are clearly defined and, relevant and associated impacts are identified, including the restricted manoeuvrability of the vessel during survey operations. Potential interaction with relevant receptors considered. Possible impacts on other users resulting from the presence of the project are considered. Collision risk, exclusion, and the effects of deviation from established navigational routes identified as potential risks.</p> <p><b>Physical presence of vessel and equipment - Air quality</b></p> <p>The main sources and types of atmospheric emissions are identified and discounted due to the</p>	The magnitude and spatial extent of the impact;	Yes	<p>The applicant concludes that no significant effects are likely on population and human health.</p> <p>There is likely to be no significant effect on population and human health due to the mitigation measures already put in place, such as notice to mariners, and alignment with applicable legislation (MARPOL), as well as the distance from shore and the short duration of the survey (8 days).</p>
		The nature of the impact;	Yes	
		The transboundary nature of the impact;	Yes	
		The intensity and complexity of the impact;	Yes	
		The probability of the impact;	Yes	

Factor (as specified in Article 3(1) of the EIA Directive)	Briefly summarise the environmental receptor / activity interactions considered:	Character of impact		Does applicant conclude a Significant Effect is likely? (Yes/No/ Unknown?)
		Description of character of impact	Does the screening report provide information on character of impact?	
	<p>expected dispersion of all exhaust fumes.</p> <p><b>Physical presence of vessel and equipment - Accidental Hydrocarbon spill</b></p> <p>The potential for an accidental oil spill at sea is discussed and potential cause from collision with another vessel identified.</p>	The expected onset, duration, frequency and reversibility of the impact;	Yes	
		The cumulation of the impact with the impact of other existing or approved developments;	Yes	
		The possibility of effectively reducing the impact.	Yes	
Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;	<p>Protected marine mammals (e.g. Habitats Directive Annex II and IV species) have a known distribution within the proposed survey area.</p> <p><b>Underwater Acoustic Emissions (noise) – Zones of Impact</b></p> <p>The PTS exclusion zones for high frequency cetaceans are 44 m from the surface sources, 16 metres from the AUV and 3 m from the seabed USBL. High frequency cetaceans are the most sensitive species in each case because of the</p>	The magnitude and spatial extent of the impact;	Yes	<p>The applicant concludes that no significant effects are likely on biodiversity and species and habitats protected under Directive 92/43/EEC.</p> <p>Potential impacts from underwater noise are assessed in detail, identifying potential for significance. However, the applicant proposes a number of underwater noise protective measures to marine mammals, which will also benefit fish and marine reptiles, and avoid / minimise potential for</p>
		The nature of the impact;	Yes	
		The transboundary nature of the	Yes	



Factor (as specified in Article 3(1) of the EIA Directive)	Briefly summarise the environmental receptor / activity interactions considered:	Character of impact		Does applicant conclude a Significant Effect is likely? (Yes/No/ Unknown?)
		Description of character of impact	Does the screening report provide information on character of impact?	
	<p>number of high frequency sources deployed on the survey. The PTS impact radius for low frequency cetaceans, fish and turtles is effectively zero when their hearing sensitivity is taken into account. The impact radius for disturbance is 111 metres at the surface, 6 metres from the AUV and is effectively zero from the USBL at the seabed because the 160 dB RMS threshold is not a cumulative metric whereas 155 dB SELcum is a cumulative. The PTS impact radius for phocid pinnipeds is 2 m from the source.</p> <p><b>Physical disturbance – benthic sampling</b></p> <p>Carbonate mounds are identified as potentially being located in the survey area. Seabed sampling is discussed and an environmental impact is not expected.</p> <p><b>Protected Areas</b></p> <p>The following SACs which have been considered (distance to proposed survey area): West Connacht Coast SAC (61 km); Inishkea Islands SAC (62 km); Clew Bay Complex SAC (100 km); Blasket Islands SAC (247 km). The following SPAs have been considered (distance to proposed survey area): Blacksod Bay/Broadhaven SPA (68 km); Duvillaun Islands SPA (68 km); Inishglora and Inishkeeragh SPA (65 km); Inishkea Islands SPA (63 km); Mullet Peninsula SPA (68 km); Termoncarragh Lake and Annagh Machair SPA (69 km)</p>	impact;		<p>any impacts to become significant. Cumulative effects of underwater noise have also been assessed and in some cases it is concluded that there could be potential in-combination effects on marine mammals qualifying features.</p> <p>Although the applicant has given appropriate detail into the mitigation required for noise, the applicant should be requested to indicate what methods will be used when a start-up is anticipated during hours of darkness. The applicant has provided further information to confirm that survey operations will not commence during the hours of darkness.</p> <p>They have stated that the maximum radius of impact is in close proximity to the vessel, although it is 6 m from the AUV, but no mitigation is currently proposed for potential effects within this area when the AUV is deployed and operational. The applicant has confirmed that PAM will also be used during pre-start monitoring, as well as following DAHG guidance.</p> <p>As indicated in Section 4.3.2, potential impacts on seabed habitats (i.e. cold water corals) are associated with seabed sampling and the applicant has provided information to confirm that there is no potential for significant effects.</p> <p>Potential pathway for interaction exists between SAC qualifying features (marine mammals) and survey activities (through underwater noise) but concluded that these are unlikely to lead to a significant effect with deployment of mitigation measures.</p>
		The intensity and complexity of the impact;	Yes	
		The probability of the impact;	Yes	
		The expected onset, duration, frequency and reversibility of the impact;	Yes	
		The cumulation of the impact with the impact of other existing or approved developments;	Yes	
		The possibility of effectively reducing the impact.	Yes	
Land, soil, water,	<b>Physical Presence - Benthic habitats and</b>	The magnitude	Yes	The applicant concludes that no significant effects are

Factor (as specified in Article 3(1) of the EIA Directive)	Briefly summarise the environmental receptor / activity interactions considered:	Character of impact		Does applicant conclude a Significant Effect is likely? (Yes/No/ Unknown?)
		Description of character of impact	Does the screening report provide information on character of impact?	
air and climate;	<p><b>species</b> Key activities are adequately defined and relevant and associated impacts are identified. Potential interaction with relevant receptors considered. Effects are considered by the applicant to be insignificant.</p> <p><b>Physical presence of vessel and equipment – water quality/marine discharges</b> The potential discharges into the marine environment are identified and the legal vessel requirements understood. Any discharges are likely to be small in volume.</p> <p><b>Atmospheric emissions - Air quality</b> The main sources and types of atmospheric emissions are identified and discounted due to the expected dispersion, location of the survey/vessel and longevity of effects of all exhaust fumes.</p> <p><b>Accidental Hydrocarbon spill</b> The potential for an accidental oil spill at sea was discussed and potential cause from collision with another vessel identified</p> <p><b>Pollutant Release – Water quality.</b> Key activities are adequately defined and relevant and associated impacts are identified. Management measures which have been put in place ensure discharges of pollutants are non-significant are also identified. Effects of accidental releases associated with the activity on water quality considered along</p>	and spatial extent of the impact;		<p>likely on land, soil, water and air.</p> <p>The only planned physical impact on the seabed is that associate with the seabed sampling. Information has been provided for the sampling stations, and it is assumed that the same sampling protocols will apply to the reference stations.</p> <p>The survey will be conducted by a survey vessel which produces waste, however there are suitable management measures in place to reduce the environmental impact of this waste.</p> <p>Accidental releases of waste and hydrocarbons are detailed by the applicant with appropriate management and mitigation measures proposed, and therefore unlikely to lead to significant effects.</p>
		The nature of the impact;	Yes	
		The transboundary nature of the impact;	Yes	
		The intensity and complexity of the impact;	Yes	
		The probability of the impact;	Yes	
		The expected onset, duration, frequency and reversibility of the impact;	Yes	
		The cumulation of the impact with the impact of other existing or approved	Yes	

Factor (as specified in Article 3(1) of the EIA Directive)	Briefly summarise the environmental receptor / activity interactions considered:	Character of impact		Does applicant conclude a Significant Effect is likely? (Yes/No/ Unknown?)
		Description of character of impact	Does the screening report provide information on character of impact?	
	with likelihood of such an event.	developments;		
		The possibility of effectively reducing the impact.	Yes	
Material assets, cultural heritage and the landscape	<p><b>Cultural Heritage</b> Known shipwrecks and cultural sites are identified, located outside the survey area. Risk of impacts to wreck sites and archaeological and heritage assets is therefore considered. Measures are proposed to confirm exact location of any obstructions, including ship wrecks.</p> <p><b>Physical Presence – Landscape</b> The location of the site survey is investigated and confirmed to be out of the line of sight from the coast.</p>	The magnitude and spatial extent of the impact;	Yes	<p>The applicant concludes that no significant effects are likely on Material assets, cultural heritage and the landscape.</p> <p>The applicant has given adequate consideration to what would happen should a potential wreck be located, and that an independent archaeological assessment will take place prior to the survey. The proposed development is 63 km from the coast and is therefore not within sight from the shore, no significant landscape effects are therefore anticipated.</p>
		The nature of the impact;	Yes	
		The transboundary nature of the impact;	Yes	
		The intensity and complexity of the impact;	Yes	
		The probability of the impact;	Yes	
		The expected onset, duration, frequency and reversibility of the impact;	Yes	

Factor (as specified in Article 3(1) of the EIA Directive)	Briefly summarise the environmental receptor / activity interactions considered:	Character of impact		Does applicant conclude a Significant Effect is likely? (Yes/No/ Unknown?)
		Description of character of impact	Does the screening report provide information on character of impact?	
		The cumulation of the impact with the impact of other existing or approved developments;	Yes	
		The possibility of effectively reducing the impact.	Yes	
The interaction between the factors	The applicant's report provides an adequate consideration of the interaction between factors. The potential effects on natural resources and natural capital is described, and linkages between these natural resources and the activities they support is acknowledged by the applicant. Both the fundamental, direct effects of the proposed project, and the attendant effects on activities relying on the natural resources that might be impacted, have been considered to an adequate level by the applicant.	The magnitude and spatial extent of the impact;	Yes	The applicant concludes that no significant effects are likely to result from interaction between factors.
		The nature of the impact;	Yes	
		The transboundary nature of the impact;	Yes	
		The intensity and complexity of the impact;	Yes	
		The probability of the impact;	Yes	

Factor (as specified in Article 3(1) of the EIA Directive)	Briefly summarise the environmental receptor / activity interactions considered:	Character of impact		Does applicant conclude a Significant Effect is likely? (Yes/No/ Unknown?)
		Description of character of impact	Does the screening report provide information on character of impact?	
		The expected onset, duration, frequency and reversibility of the impact;	Yes	
		The cumulation of the impact with the impact of other existing or approved developments;	Yes	
	The possibility of effectively reducing the impact.	Yes		

## 5. MITIGATION AND MANAGEMENT COMMITMENTS

Table 5.1 documents the commitments made by the applicant and additional measures that should be included in any consent granted. The mitigation measures proposed are considered to be reliable and known to be effective.

**Table 5.1: Checklist to identify Mitigation Measures committed to by the applicant.**

Discipline	Mitigation Measure Proposed	Industry Standard	Project Specific
Physical Presence	In line with current recommendations from PAD and NPWS, Europa will maintain a 100 km separation distance between concurrent acoustic surveys that may be operating. Implementing the 100 km separation zone between concurrent acoustic survey operations will ensure in-combination effects from noise generating equipment are avoided. Europa are in regular communication with operators proposing to undertake operations offshore Ireland in 2019. Survey operations will be coordinated to ensure a 100 km separation is maintained between surveys during concurrent geophysical operations.		X
	Final details of the timing and duration of the survey, including proposed survey vessel, will be communicated to PAD of DCCAE in advance of operations commencing.		X
	Final survey lines and transects will be confirmed to PAD DCCAE prior to survey.		X
	The location of environmental seabed sampling stations, including reference stations, have yet to be identified. Once locations have been confirmed details will be provided to PAD DCCAE.		X
	Prior to undertaking seabed sampling operations, a visual inspection will be undertaken using AUV mounted cameras and/or drop down video.		X
Archaeology	Using geophysical data to ensure no marine archaeology sites are disturbed.		X
	The services of a suitably qualified and suitably experienced maritime archaeologist, to include experience in the interpretation of marine geophysical data, shall be engaged in advance of any such survey to undertake the Underwater Archaeological Impact Assessment (UAIA) so as to inform on the cultural potential of the area and advise on the known or potential location of any shipwrecks or other UCH within the specified survey area. This is particularly relevant where grab samples, etc. are being carried out.		X
	The UAIA should comprise detailed desktop study and archaeo-geophysical interpretation of all geophysical survey results as well as assessment of the results of all sampling.		X

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<b>Discipline</b>	<b>Mitigation Measure Proposed</b>	<b>Industry Standard</b>	<b>Project Specific</b>
	The UAIA shall be licensed by the Department of Culture, Heritage and the Gaeltacht and a detailed method statement shall accompany the licence application by the archaeologist.		X
	Ideally the archaeologist would be on board the survey vessel to view the geophysical data in real time and identify known or potential UCH as it is encountered. If this is not possible the results of all marine geophysical survey undertaken shall be made available to the archaeologist for assessment and interpretation, and to inform on any potential submerged cultural heritage or submerged palaeo-landscape evidence.		X
	The UAIA report shall be forwarded to the Underwater Archaeology Unit of the Department of Culture, Heritage and the Gaeltacht for consideration and further comment in advance of any site investigation/sampling works taking place.		X
Annex I Habitats	Details of any previously unknown Habitats Directive Annex I Habitats will be recorded and shared with the NPWS of the DCHG.		X
Interactions with Other Sea Users	Details of the vessel (vessel name and call sign etc.) and survey equipment will be communicated through a Marine Notice published on the Department for Transport, Tourism and Sport (DTTS) website. During survey operations Radio Navigation Warnings will be broadcast daily.		X
	Implementation of communications strategy described in Section 3.3 of the Fishery Assessment before the survey commences, with emphasis on notifying EU fishers.		X
	It is recommended that all persons involved with this survey should be mindful that fishing vessels are also operating under licence and have equal status and access rights. As such it is imperative that respectful relations are developed and maintained for the duration of the proposed survey. These good relations are also important to the success of other oil and gas industry exploration in the future.		X
	It is recommended that a designated Spanish and French speaking person ashore, with a working knowledge of both the fishing industry and offshore operations should be available in the event that liaison with foreign fishing vessel owners is required. It would be envisioned that this person would work in conjunction with the FLO.		X
	It is recommended that coordinates to be shared with the fishing industry are always shown in WGS84 Lat-long format.		X

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<b>Discipline</b>	<b>Mitigation Measure Proposed</b>	<b>Industry Standard</b>	<b>Project Specific</b>
	Broadcast of regular Sécurité messages by the survey vessel.		X
	It is recommended that the survey vessel should be particularly mindful of Rule 18 of the IMO Convention on the International Regulations for Preventing Collisions at Sea 1972 (COLREGs) which covers "Responsibilities between vessels".		X
Underwater Noise	Qualified MMOs to be appointed to monitor marine mammals and operator's implementation of the DAHG guidance.		X
	Seismic surveying shall not commence if marine mammals are detected within a 1,000 m radial distance of the sound source.		X
	Pre-start monitoring will only be undertaken when visual conditions are conducive to effective monitoring and outside the hours of darkness. Sound producing activities will only commence where the pre-start monitoring periods have elapsed with no marine mammals detected within the monitored zone by the MMO.		X
	Sound-producing activities will only commence in daylight hours where effective visual monitoring by the MMOs is achieved.		X
	Operations in waters <200 m and >200 m, the MMO will conduct pre-start-up constant effort monitoring for 30 and 60 minutes respectively before the sound producing activity is due to commence. Sound producing activity will not commence until monitoring period have elapsed with no marine mammals detected within the monitored zones by the MMO.		X
	In the case of site survey operations in <200 m survey operations the MMO will conduct pre-start-up constant effort monitoring for 30 minutes before the sound producing activity is due to commence.		X
	Pre-start up monitoring shall subsequently be followed by a Ramp-Up Procedure		X
	Commencement of sound producing survey activities will be undertaken using a 'soft-start' (ramp up and gradual increase in energy/noise source) procedure for any equipment where the output peak SPL exceeds 170 dB re 1 µPa @ 1 m. The build-up of acoustic energy output will occur in consistent stages to provide a steady and gradual increase in power over a period of 40 minutes in the case of 10 cu in. seismic airgun operation and 20 minutes in the case of site survey activity. Where the power of acoustic noise sources cannot be increased gradually, due to operational parameters of the device, the		X



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Discipline	Mitigation Measure Proposed	Industry Standard	Project Specific
	device will be switched on and off in a consistent sequential manner for the duration of the defined ramp up period prior to commencement of the full necessary output.		
	Where a soft start procedure is employed, the delay between the end of the soft start and the start of the survey will be minimised to prevent unnecessary high level sound introduction.		X
	In all cases the delay between the end of ramp up (i.e. the necessary full seismic output) and the start of a survey line or station will be minimised to prevent unnecessary high level sound introduction into the environment.		X
	Once the ramp up procedure commences, there is no requirement to halt or discontinue the procedure at night time, nor if weather or visibility conditions deteriorate nor if marine mammals occur within 1,000 m radial distance of the sound source.		X
	Where the duration of a survey line or station change will be greater than 40 minutes the activity shall, on completion of the line/station being surveyed, either:  (a) shut down and undertake full pre-start Monitoring, followed by a Ramp Up Procedure for recommencement; or  (b) Undergo a minor reduction in seismic energy output to a lower energy state where the output peak sound pressure level from any operating source is 165-170 dB re: 1 µPa @ 1 m and then undertake full Ramp Up Procedure on recommencement.		X
	Where the duration of the survey line or station changes is less than 40 minutes the activity may continue as normal (i.e. under full seismic output).		X
	If there is a break in sound output for a period of 5-10 minutes (e.g. due to equipment failure, shut-down, survey line or station change), MMO monitoring will be undertaken to check that no marine mammals are observed within the Monitored Zone (i.e. within the 1,000 m radius) prior to recommencement of the sound source at full power		X
	Where a marine mammal is observed within the Monitored Zone during such a break of 5-10 minutes, then all Pre-start Monitoring and Ramp Up Procedure (where appropriate following Pre-start Monitoring) shall recommence as in normal start-up operation.		X
	If any case, if there is a break in sound output for a period greater than 10 minutes (e.g. due to equipment failure, shut-down, survey line or station change) then all Pre-start Monitoring and a subsequent Ramp Up Procedure (where appropriate following Pre-start Monitoring) will be		X

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<b>Discipline</b>	<b>Mitigation Measure Proposed</b>	<b>Industry Standard</b>	<b>Project Specific</b>
	undertaken.		
	Full reporting on MMO operations and mitigation undertaken will be provided to the Regulatory Authority.		X
	In addition to the above measures, MMOs will use of passive acoustic monitoring (PAM) to optimise marine mammal detection around the survey.		X
	Sound producing equipment on the AUV will be switched on at surface following pre-start monitoring and ramp up procedures. Monitoring at depth will be undertaken using PAM.		X
Discharges to the Sea	Treated grey and black water will be discharged in line with MARPOL 73/78 Annex IV	X	
	Food waste will be macerated in line with MARPOL 73/78 requirements, and no discharges will be made within 12 nm of the coastline.	X	
	Discharge of bilge water from the survey vessel will comply with standards set out in the 1973/78 MARPOL Convention with no discharge occurring within the 12 nm limit.	X	
	Solid waste stored onboard and handled to comply with the Waste Management Hierarchy, MARPOL and the Sea Pollution (Prevention of Pollution by Garbage from Ships). Garbage Management Plan will be developed. Contractors must use authorised waste contractors.	X	
	Survey vessel will have a SOPEP in place in accordance with Annex I of MARPOL.	X	
	Spill kits on board the vessel deck to clean-up spills of utilities hydrocarbons or chemicals before they can enter the sea.	X	
	Refuelling of the survey vessel to be undertaken in port, thus reducing potential for collision or spillage at sea	X	
	Ballast water discharges may be required during operations and will be managed through a Ballast Management Plan		X
	Implementation of a Waste Management Plan describe all operational procedures related to the treatment, disposal and management of generated wastes.		X
Atmospheric Emissions	Compliance with the Merchant Shipping (Prevention of Air Pollution from Ship) Regulations 2010-2017 and the MAPROL Convention 73/78 Appendix VI on atmospheric	X	

## Statutory Environmental Assessment

<b>Discipline</b>	<b>Mitigation Measure Proposed</b>	<b>Industry Standard</b>	<b>Project Specific</b>
	emissions.		
	Operations will be planned to minimise duration, and vessel movements, and ensure efficient operations.	X	

## 6. CONCLUSIONS

Table 6.1 provides a summary of the review of the applicant's screening assessment. Given the information presented, it is concluded that adequate information is presented to inform a robust EIA screening decision.

**Table 6.1: Conclusions of screening assessment, based on checklists provided in Table 4.3-4.5, for projects listed on Annex II of the EIA Directive**

<p>Summary of features of project and of its location indicating the need for EIA:</p> <p>Europa Oil &amp; Gas Limited propose to undertake a geophysical survey (seabed and shallow soils) and environmental baseline survey to inform a habitats assessment in the Inishkea area in Blocks 18/19 and 18/20, located approximately 63 km off the west coast of Ireland.</p> <p>The survey area would comprise an 80 km<sup>2</sup> working area within which all survey activities would take place and includes the currently proposed location of a future well, though no drilling forms part of this licence application. The working area also includes space for vessel manoeuvring, survey line turns and equipment deployment/recovery. Water depths within the greater working area range from around 350 m to 700 m below mean sea level.</p>	
<p>Do you agree with the applicant's screening assessment? If no, why?</p>	<p>Yes. It is prepared by competent experts and supported by appropriate scientific and other evidence.</p>
<p>Is the project likely to have significant residual effects on the environment?</p>	<p>No, subject to the mitigation commitments detailed in section 5 of this report, this assessment concludes that there would be no likely significant effects associated with the proposed survey. The nature and extent of the proposed activities are not likely to cause significant effects.</p>
<p>Is EIA required? (Yes / No / More Information Required?)</p>	<p>No because due to the nature and extent of the proposed activities, there are not likely to be significant effects on the environment from this project alone or in combination with other plans or projects and because adequate and effective mitigation measures will be used to prevent likely significant effects.</p>
<p>What further information is required to inform decision (if any)?</p>	<p>None, however, the DCCAE should note the following points:</p> <ul style="list-style-type: none"> <li>• The vessel proposed to be used for the survey is the MV Fugro Venturer. Prior to the commencement of the proposed site survey operations, the applicant may seek approval from DCCAE to use an alternative equivalent survey vessel. In this event, DCCAE should expect to see confirmation that the survey equipment and methodology on any replacement vessel are equivalent to that described in the EIA Screening Report and that the proposed development described in the EIA Screening Report has not materially changed.</li> <li>• The decision should state that no EIA is required for the proposed development as described in the application, including all proposed mitigation measures as detailed in Section 5.</li> </ul>

**Table 6.2: Summary of screening assessment for projects listed on Annex II of the EIA Directive**

<b>Outcome of Screening Report Assessment</b>	<b>Overall Screening Opinion / EIA Required?</b>
Likely Significant Residual Effects on the Environment	<b>EIA required</b>
More information is required to inform decision	<b>Unknown is EIA is required — Further information required from the applicant</b>
No Likely Significant Effects on the Environment	<b>EIA not required</b>