Submission	FSL Application	Consultee Organisation	Consultee Name	Topic	Overview of Comments	Applicant Response
1	FS007161	N/A	Anonymous	Economic	This project will give Ireland the wind energy boost it needs with the consent wind on the west coast. I would agree and want this project to go ahead which I hope the Minister agrees on. It will he a big investment to Connemara for generations to come	This response is in relation to the future development of the offshore wind farm project and not specifically the surveys contained in the FSL appplication.
2	FS007161	N/A	Anonymous	Administrative	Applicant address is not the registered address of the company	Noted
				Survey Area	The FSL area is larger than the relevant project area.	The Sceirde Rocks Relevant Project area is located within the FSL area which we have applied for. The reason for the wider survey area requested is to enable data to be collected outwith the relevant project boundary that will still support project design and future EIA workstreams. It is important when developing and designing a project to have data on the environment in the area surrounding the project. In addition the FSL survey area was submitted before the MAC for the project had been confirmed.
				Fishing	Loss of fishing grounds due to survey disruption. Extra costs of detouring around turbines. Loss of fish stocks from survey damage.	The information provided in our Environmental Assessment and EIA Screening Report demostrates that any disruption from survey activitiy will be short term, temporary and not significant on both fishing activity and fish ecology. Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered.
				Lobster	Damage to shellfish - Impact from survey equipment on lobster	Typically, marine invertebrate species which lack a swim bladder or other air-filled space (such as crustaceans found in Irish waters, e.g. lobster, crab and prawn), are not considered to be sensitive to sound pressure (Marine Scotland, 2018). Sound waves in water are comprised of two parts, particle motion and pressure (Nedelec, 2016). It is thought that marine invertebrates will only detect the particle motion at low frequencies (Mooney et al., 2010 & 2012). In comparison with fish species, it has been noted that the marine invertebrates seem to be less sensitive to particle motion (Marine Scotland, 2018). While the sensitivity of marine invertebrates to particle motion is still in early stages of research (Lewandowski et al., 2016) there is little evidence to suggest underwater sound from geophysical surveys could have significant impacts on crustacean species. Focusing on lobsters and crabs within the marine invertebrate group, it is understood that they detect noise in the form of particle motion through mechano-receptors. These types of receptors include internal statocysts (a fluid filled chamber containing a relatively dense material (statolith)); chordontal organs (ciliated stretch receptors acting as proprioceptors in insects and Crustacea which may also have a role in detecting particle motion); and superficial surface receptors (Marine Scotland, 2018). Decapod crustaceans (such as lobster and crab) have been noted to have physiological resilience to underwater noise due to the lack of gas filled spaces. It has been noted that no lethal effects from underwater noise have been observed for crustacean species including edible crab Cancer pagurus, European lobster Homarus gammarus or the Norway lobster Nephrops norvegicus, although there is evidence sub-lethal physiological and behavioural effects among these species (Edmonds et al, 2016). One proposed geotechnical sampling method is vibratory coring (known as vibro coring). Vibro coring involves an oscillating motor attached to the core barrel which causes localised liquefaction in the sediments along the core barrel surface, which allows the core barrel to penetrate easier into the sediment. Vibro coring is not considered to be a particularly noisy activity, although sound associated with vibro coring would likely be audible above the sound of the vessel that the rig is deployed from (e.g. 180-190 dB (rms) re 1 micropascal @ 1 metre). Any impacts from sound generated during vibro coring will be short-lived due to the nature of how vibro

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						coring rigs operate, i.e. short, intermittent pulses of vibration. This activity will not cause any long term significant environmental effects. In terms of physical vibrations, the short pulses of vibration will transfer through the core barrel into the sediment, but will not have an impact beyond the immediate vicinity of the coring operations as the energy dissipates through the sediment. Studies have looked at the sensitivity of crustaceans to substrate-borne vibrations considered and noted the greatest sensitivity at frequencies below 200 Hz (Marine Scotland, 2018). Other studies have looked at a species-specific example of N. norvegicus (can detect sounds between 20–180 Hz), and Panopeus crabs (can detect sounds between 90 -200Hz). Prawn (Palaemon serratus) is understood to detect sounds (through particle motion) at frequencies < 2000 Hz (Lovell et al. 2005). The potential geophysical surveys undertaken will likely emit noise between 20-200Hz (Edmonds et al, 2016). Whilst this sound source is within the range of sensitivity of important crustacean species (crab, lobster, Nephrops, prawn) it is likely that any impacts would be minor due to the short term and temporary, localised impacts, and the physiological and behavioural resilience to underwater noise of those important crustacean species in the region. Long term impacts would not be expected beyond the duration of the geophysical/geotechnical surveys. Geotechnical drilling does not generate large amplitude sounds. One study reported sound output of 142 – 145 dB re 1 µPa at 1 metre (Erbe & McPherson, 2017) (note that noise from associated vessels could be significantly higher than the sound produced by geotechnical drilling). Decapod crustaceans are considered to be physiologically resilient to noise as they have no gas-filled cavities in their bodies; as a result, the likelihood of impact of geotechnical drilling on either Homarus or Nephrops species (decapod lobsters found in Irish waters) is very low. Erbe & McPherson (2017) recorded drilling sound from a comparable, small geotechnical drilling rig in shallow water. While the sounds recorded were ca. 35 dB above the ambient soundscape, and thus probably audible by marine animals, the sound levels recorded were tens of dB lower than the amplitude of sounds typically considered to be harmful in marine impact assessment, and are likely no louder than typical inshore vessel activity (Parsons et al., 2021). Sounds of this amplitude, across the duration of a campaign of geotechnical investigations lasting several days or a few weeks, may have minor behavioural impacts on crustaceans, as was observed in shore crabs exposed to seabed vibration (20 Hz) in laboratory conditions (Aimon et al. 2021). This species has also been observed to demonstrate reduced foraging and antipredator behaviour in the presence of elevated ambient noise levels (Wale et al. 2013). However, the geotechnical drilling is likely to be completed within a short campaign (ca. 3 days or less at each borehole) and is not believed to cause long-term impacts to these species. Following the completion of the geotechnical investigations at each location it is likely that behaviour of crustaceans found in Irish waters, e.g. lobster, crab and prawn will return to normal, with no long-lasting effects.
				Fishing	Consequential loss between application and private fisherman (anonymous) should be agree	In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels.
3	FS007161	N/A	Anonymous	Fishing	I fish in the proposed area and have concerns about my livelihood and the effects on fish stocks from this project	The information provided in our Environmental Assessment and EIA Screening Report demostrates that any disruption from survey activitiy will be short term, temporary and not significant on both fishing activity and fish ecology. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.

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4	FS007161	N/A	Anonymous	Fishing	Deeply concerned about the future of my livelihood and fishing industry for me and my family from the effect of this proposed projected	The information provided in our Environmental Assessment and EIA Screening Report demostrates that any disruption from survey activitiy will be short term, temporary and not significant on both fishing activity and fish ecology. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
5	FS007161	N/A	Anonymous	Fishing	During the geophysical survey carried out in and around June 2021 of the area, there was a noticable increace of potting effort around the Aran Islands, by fishermen from Conemmara who were displaced during the survey period. Aran Islanders have fished around our Islands for generations. This displacement greatly impacts our fishing limited area, business and and puts further pressure on the stocks.	The Applicant did not undertake any surveys in June 2021. However, surveys were undertaken in 2022 during and following which this issue of displacement has not been raised to the Applicant. The Applicant will continue to liaise with local fishermen in advance of surveys to understand their concerns.
6	FS007161	N/A	Anonymous	Fishing	Survey methods will cause fish to move away from grounds and result in loss of income over next few years	The information provided within the supporting reports of the FSL application provide evidence and justification that the small footprint of boreholes combined with a short duration of activity will not lead to significant impacts on fish ecology across the FSL area. Following the completion of the surveys it is likely that behaviour of fish will return to normal, with no long-lasting effects.
7	FS007161	N/A	Anonymous	Fishing	Impact of turbines on crayfish	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered. A future Environmental Impact Assessment (EIA) Report will be submitted with a development consent application for the construction and operation of an offshore wind farm.
					Compensation to other fishermen from neighbouring villages who then moved inout our fishing grounds	In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels.
					effects on biodiversity and natural habitat	A suite of supporting reports were provided with the FSL application to demonstrate the surveys will have no significant effect on the environment.
					We need somebody to tell us what is going on and how we will be further impacts	A fisheries liaison officer has been appointed to liaise with fishermen, provide them with information and discuss stheir concerns.
8	FS007161	N/A	Anonymous	Maritime ecology	any development on the sea bed around Sceirde would be detrimental to maritime ecology , to fragile ecosystems around the	A suite of supporting reports were provided with the FSL application to demonstrate the surveys will have no significant effect on the environment.

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					coast and would negatively impact the coast and surrounding areas.	
9	FS007161	Resident	Anonymous	Turbines	Impact the proposed mega turbines will have on environment and landscape	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered. A future Environmental Impact Assessment (EIA) Report will be submitted with a development consent application for the construction and operation of an offshore wind farm.
					Drilling and surveys will have huge impacts on lobster and crab	Typically, marine invertebrate species which lack a swim bladder or other air-filled space (such as crustaceans found in Irish waters, e.g. lobster, crab and prawn), are not considered to be sensitive to sound pressure (Marine Scotland, 2018). Sound waves in water are comprised of two parts, particle motion and pressure (Nedelec, 2016). It is thought that marine invertebrates will only detect the particle motion at low frequencies (Mooney et al., 2010 & 2012). In comparison with fish species, it has been noted that the marine invertebrates seem to be less sensitive to particle motion (Marine Scotland, 2018). While the sensitivity of marine invertebrates to particle motion is still in early stages of research (Lewandowski et al., 2016) there is little evidence to suggest underwater sound from geophysical surveys could have significant impacts on crustacean species. Focusing on lobsters and crabs within the marine invertebrate group, it is understood that they detect noise in the form of particle motion through mechano-receptors. These types of receptors include internal statocysts (a fluid filled chamber containing a relatively dense material (statolith)); chordontal organs (ciliated stretch receptors acting as proprioceptors in insects and Crustacea which may also have a role in detecting particle motion); and superficial surface receptors (Marine Scotland, 2018). Decapod crustaceans (such as lobster and crab) have been noted to have physiological resilience to underwater noise due to the lack of gas filled spaces. It has been noted that no lethal effects from underwater noise have been observed for crustacean species including edible crab Cancer pagurus, European lobster Homarus gammarus or the Norway lobster Nephrops norvegicus, although there is evidence sub-lethal physiological and behavioural effects among these species (Edmonds et al, 2016). One proposed geotechnical sampling method is vibratory coring (known as vibro coring). Vibro coring involves an oscillating motor attached to the core barrel which causes localised liquefaction in the sediments along the core barrel surface, which allows the core barrel to penetrate easier into the sediment. Vibro coring is not considered to be a particularly noisy activity, although sound associated with vibro coring would likely be audible above the sound of the vessel that the rig is deployed from (e.g. 180-190 dB (rms) re 1 micropascal @ 1 metre). Any impacts from sound generated during vibro coring will be short-lived due to the nature of how vibro coring rigs operate, i.e. short, intermittent pulses of vibration. This activity will not cause any long term significant environmental effects. In terms of physical vibrations, the short pulses of vibration will transfer through the core barrel into the sediment, but will not have an impact beyond the immediate vicinity of the coring operations as the energy dissipates through the sediment. Studies have looked at the sensitivity of crustaceans to substrate-borne vibrations considered and noted the greatest sensitivity at frequencies below 200 Hz (Marine Scotland, 2018). Other studies have looked at a species-specific example of N. norvegicus (can detect sounds between 20–180 Hz), and Panopeus crabs (can detect sounds between 90 -200Hz). Prawn (Palaemon serratus) is understood to detect sounds (through particle motion) at frequencies < 2000 Hz (Lovell et al. 2005). The potential geophysical surveys undertaken will likely emit noise between 20-200Hz (Edmonds et al, 2016). Whilst this sound source is within the range of sensitivity of important crustacean species (crab, lobster, Nephrops, prawn) it is likely that any impacts would be minor due to the short term and temporary, localised impacts, and the physiological and behavioural resilience to underwater noise of those important crustacean species in the region. Long term impacts would not be expected beyond the duration of the geophysical/geotechnical surveys. Geotechnical drilling does not generate large amplitude sounds. One study reported sound output of 142 – 145 dB re 1 µPa at 1 metre

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						(Erbe & McPherson, 2017) (note that noise from associated vessels could be significantly higher than the sound produced by geotechnical drilling). Decapod crustaceans are considered to be physiologically resilient to noise as they have no gas-filled cavities in their bodies; as a result, the likelihood of impact of geotechnical drilling on either Homarus or Nephrops species (decapod lobsters found in Irish waters) is very low. Erbe & McPherson (2017) recorded drilling sound from a comparable, small geotechnical drilling rig in shallow water. While the sounds recorded were ca. 35 dB above the ambient soundscape, and thus probably audible by marine animals, the sound levels recorded were tens of dB lower than the amplitude of sounds typically considered to be harmful in marine impact assessment, and are likely no louder than typical inshore vessel activity (Parsons et al., 2021). Sounds of this amplitude, across the duration of a campaign of geotechnical investigations lasting several days or a few weeks, may have minor behavioural impacts on crustaceans, as was observed in shore crabs exposed to seabed vibration (20 Hz) in laboratory conditions (Aimon et al. 2021). This species has also been observed to demonstrate reduced foraging and antipredator behaviour in the presence of elevated ambient noise levels (Wale et al. 2013). However, the geotechnical drilling is likely to be completed within a short campaign (ca. 3 days or less at each borehole) and is not believed to cause long-term impacts to these species. Following the completion of the geotechnical investigations at each location it is likely that behaviour of crustaceans found in Irish waters, e.g. lobster, crab and prawn will return to normal, with no long-lasting effects.
					Impact on Mace Head weather station due to presence of project turbines	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered. A future Environmental Impact Assessment (EIA) Report will be submitted with a development consent application for the construction and operation of an offshore wind farm.
10	FS007161	Resident	Anonymous	Various	Item 1 - Are GIG the best company with which to enstrust an industrial project of this scale?	The FSL is for survey activity only and not the construction/operation of the offshore wind farm.
					Item 2 - Consultation material location and notices	FST provided all requried hard copies in the required locations for consultation as instructed and approved by the Department with all documents also available online.
					Item 3 - Why is the application for 60 boreholes when only 25-30 turbines?	The FSL application is for upto 60 boreholes to be taken across the survey area in order to collect a range of important baseline information to inform turbine site selection, fonudation design and future environmental assessments. It is not the case of one borehole per turbine.
					Item 4 - is a larger survey area needed to allow for more smaller turbines.	The Sceirde Rocks Relevant Project area is located within the FSL area which we have applied for. The reason for the wider survey area requested is to enable data to be collected outwith the relevant project boundary that will still support project design and environmental impact assessment of the broader area.
					Item 5 - what impacts will turbines have on communities?	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered.
					Item 6 -Impact on Mace Head weather station due to presence of project turbines and construction	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered. The surveys will have no impact on the operations of Mace Head.

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					Item 7 -Deep drilling and equipment impacts on seafloor marine environment	The assessments provided in our application reports (Environmental Assessment and EIA Screening Report, Report to Inform Appropriate Assessment Screening) demonstrate the small footprint of our survey works relative to the wider area of habitat that is available. Each borehole, including equipment, will have a maximum footprint of only 20m2. This allows us to conclude that there will be no significant effect on seabed habitats due to the small scale and temporary nature of the survey works included within this FSL application. The seabed in the Foreshore Licence Area is expected to consist of mixed sediments with significant areas of exposed bedrock. None of the survey locations are situated in protected areas designated for seabed habitats and there are no records of sensitive habitats within the area. The area directly affected will be highly localised within the footprint of the equipment deployed. Any sessile epifauna on which equipment is placed may be damaged or lost. In soft sediments, the equipment may penetrate a few centimetres into the sediment which may cause displacement or loss of individual infaunal animals. The geotechnical sampling equipment will typically remain in position for three days or less at each location, after which it will be recovered, and nothing will be left on the seabed. In very soft sediments, small depressions may be left in the seabed. Recovery from the minor disturbance is expected to begin immediately due to natural processes. The biota in the Foreshore Licence Area are naturally habituated to sediment transport processes and are therefore less susceptible to the impacts of temporarily increased sedimentation rates. The following control measures will be taken to avoid or reduce any potential impacts on the seabed: • The geotechnical boring and CPT equipment will be accurately positioned on the seabed at each pre-determined location where safe and practicable to do so, reducing any seabed impacts where possible. All deployment and recovery activities will be undertaken as per pre-determined procedures. • A drop-down underwater camera or ROV will be used at each benthic sampling station and the grab will only be deployed if soft sediments are present, thereby avoiding unnecessary damage to potential rocky reef habitats. The photographic equipment itself will not contact the seabed. Given the dynamic nature of the seabed in the Foreshore Licence Area, potential sediment suspension and re-settlement around those activities causing seabed disturbance is only likely to have a temporary effect and to occur in close proximity to the areas directly impacted. Considering the relatively small scale and temporary nature of the seabed impact and the potential for rapid recovery once the short-term activities are competed, there will be no likely significant effect.
					Item 8 - Underwater noise impacts on marine mammals and mitigation	A suite of supporting reports were provided with the FSL application to demonstrate the surveys which provided a detailed assessment of underwater noise (including modelling) and the potential effects on marine mammals. This has been fully considered in the Environmental Assessment and EIA Screening Report, the Report to Inform Appropriate Assessment and the Natura Impact Statement. Mitigation and monitoring measures proposed are entirely compliant with those recommended for such survey activities by the NWPS 2014 guidance "Guidance to manage risk to marine mammals from man-made sound sources".
					Item 9 -lack of consultation on visual impact of the turbines	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered.
					Item 10 - are fixed bottom turbines the best solution	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered.
11	FS007161	Resident	Anonymous	Policy	The Department of the Environment, Climate, and Communications (DECC) has confirmed that there will be a centralised scheme for offshore wind energy projects “confined to	The FSL application is for marine surveys to be undertaken to support project design. Sceirde Rocks Offshore Wind Farm is a fixed bottom offshore wind farm off the West Coast of Ireland and under the Transitional Protocol is recognised as a Relevant or Phase One project. The policy that is referred to is for Phase 2 projects.

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					two sites, one off the south coast and one off the south-east coast".	
				Policy	The 'Policy Support' document provided as part of the foreshore licence application does not make reference to the Climate Action Plan 2023	The Climate Action Plan 2023 (CAP23) is the second annual update to Ireland's Climate Action Plan 2019. The plan was launched on 21 December 2022 and was therefore not available at the time of submission of this FSL application. Offshore wind will be a cornerstone to the achievement of the targets in CAP23. This Foreshore Licence application is consistent with this policy, with the site investigation activities a required step to developing an offshore wind farm project which can contribute to these renewable energy targets.
				Policy	The 'Policy Support' document provided as part of the foreshore licence application does not make reference to the Climate Action Plan 2023	Noted. This Foreshore Licence application is consistent with this policy, with the site investigation activities a required step to developing an offshore wind farm project which can contribute to renewable energy targets.
				Policy	The Environmental Assessment and EIA Screening Report does not demonstrate how the Climate Action Plan 2023 requirement for the "development of offshore renewable energy to progress at pace alongside the conservation, protection, and recovery of marine biodiversity" will be met. Mitigation measures alone are not sufficient to meet the requirement for conservation, protection, and recovery of marine biodiversity as part of offshore renewable energy development.	The environmental assessment documents submitted with the FSL application are solely focused on assessing potential impacts of the survey activities included in the FSL application. The future EIA Report that will consider the whole Project development will including conservation, protection and recovery of marine biodiversity and all construction/operation impacts and will be submitted with a future development consent application.
				Socio-economic	The Environmental Assessment and EIA Screening Report has not assessed potential socio-economic impacts of the survey works	The environmental assessment documents submitted with the FSL application are solely focused on assessing potential impacts of the survey activities included in the FSL application. Given the nature of the survey works and impacts of a socio-economic nature have focused solely on any potentil disruption to commercial fishing activitiy. It is not anticipated that the surveys will have any wider socio-economic impacts. The EIA Report that will consider the whole Project development will include all potential socio-economic impacts from the construction/operation of the offshore wind farm and will be submitted with a future development consent application.
				Benthic	The Environmental Assessment and EIA Screening Report has not considered the impact of the survey works on blue carbon sequestration	The environmental assessment documents submitted with the FSL application are solely focused on assessing potential impacts of the survey activities included in the FSL application. Given the nature of the survey works and the relatively small footprint (as considered in the assessment on seabed habitats) it is not considered that there will be any impact on blue carbon sequestration. The future EIA Report that will consider the whole Project development will include blue carbon and all construction/operation impacts and will be submitted with a future development consent application.

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				Kelp	The Environmental Assessment and EIA Screening Report has not considered the impact of the survey works on the marine environment holistically, particularly on the basis of the food web. There is no mention in the report of the important seagrass and kelp forests in the survey area	Any impact to kelp would be consistent with the that described in our assessment reports which demonstrate the small footprint of our survey works relative to the wider area of habitat that is available. Each borehole, including equipment, will have a maximum footprint of only 20m2. This allows us to conclude that there will be no significant effect on seabed habitats due to the small scale and temporary nature of the survey works included within this FSL application.
				Project impacts	The Environmental Assessment and EIA Screening Report has not considered the potential impact of the survey works on the atmospheric research station at Mace Head	Impacts from the presence of construction and operation of the offshore wind farm are not relevant to the surveys being requested in this FSL application and are therefore not considered. The surveys will have no significant impact on the oprations of the atmospheric research station at Mace Head. A future Environmental Impact Assessment (EIA) Report will be submitted with a development consent application for the construction and operation of an offshore wind farm.
				Consultation	The Environmental Assessment and EIA Screening Report does not reference the Irish Whale and Dolphin Group (IWDG) policy paper on offshore wind	Noted. The IWDG policy paper will not affect the conclusions of the assessment of the marine surveys included in the FSL application. The IWDG have been consulted on this FSL application and their response can be found in the 'prescribed bodies' consultation responses.
				Marine mammals and reptiles	The Environmental Assessment and EIA Screening Report fails to note the conservation status of marine species. For example, the leatherback turtle is reported as vulnerable, with a declining population, in the International Union for Conservation of Nature (IUCN) red list	Whilst this is correct, the assessment presented in the Environmental Assessment and EIA Screening Report, in particular the Annex IV species risk assessment section, provides robust justification for why the survey activities will have no significant impact on leatherback turtles. Rogan et al. (2018) recorded three leatherback turtles over a two-year period, all in the summer and all over the continental shelf. The mitigation measures that will be in place for protection of marine mammals from noise sources (adherence to the NPWS 2014 "Guidance to manage risk to marine mammals from man-made sound sources".will also serve to provide protection to any marine turtles that may occur in the area at the time. The survey vessels will be moving at slow speed or will be stationary. Given the short duration and temporary nature of the site investigation activities, it is extremely unlikely that any turtles will encounter the site investigation activities. There are no likely significant effects upon the population status of any marine turtle species
				Birds	The Environmental Assessment and EIA Screening Report has not considered the potential impact of the survey works on seabirds	Potential impacts on birds are included in the Environmental Assessment and EIA Screening Report but are covered in more detail within the Report to Inform Appropriate Assessment.
				Heritage	The Environmental Assessment and EIA Screening Report has not considered the potential impact of the survey works on key cultural and natural heritage sites such as the 6th century church on Oilean MhicDara	The FSL application is for marine surveys only with no pathway for impact on terrestrial heritage assets and they were therefore not considered in the assessments.

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				Legislative compliance	The Environmental Assessment and EIA Screening Report concludes that "the proposed activities will have no likely significant effects on the identified environmental receptors". It is impossible for the scale of survey works proposed to have no significant effects on the identified environmental receptors. This conclusion must surely call into question the validity of the Environmental Assessment and EIA Screening that has been carried out.	The assessments provided demonstrate that survey work will have no significant effect on the qualifying features of designated sites in the vicinity of the survey work or other environmental receptors. These assessments were undertaken by independent experts with decades of experience in environmental assessments and the interaction of survey works such as these with designated sites. Therefore the Applicant is confident in the robustness of the assessments provided.
				Survey activities	Schedule of Activities' states that "A foreshore license with a timeline of 5 years is being requested to allow phases of survey activity". It is stated that the phasing will consist of preliminary investigation for general ground conditions and potential hazard assessment, main investigation for specific ground conditions, and infill survey covering additional locations or to investigate newly identified hazards. However, the schedule of activities appears to provide details only for the preliminary investigation.	The geotechnical survey details provided in the Schedule of Activities, and therefore requested under this foreshore licence, cover what is required for all geotechnical surveys (which may or may not be split into a preliminary and main survey phase).
				Consultation	There has been very limited effort made to inform and consult with the local community regarding the foreshore licence application and the proposed survey works. Leaving the drawings in the garda station – which can only be accessed by appointment – is entirely insufficient. There are no posters up in key places such as the post office informing the local community about the foreshore	FST provided all requried hard copies in the required locations for consultation as instructed and approved by the Department with all documents also available online. Information about the consultation was included in very large notices in two local and one national newspaper on two separate occasions.

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					licence application and how they can access information on it.	
				Policy	The Irish Government has committed to expand Ireland's Marine Protected Areas (MPAs) to cover 30% of Ireland's marine area by 2030 (having failed to meet an earlier 10% target) . Fair Seas have published a report identifying areas of interest for Marine Protected Area designation in Irish Waters , an 'area of interest' incorporating Galway Bay and Islands which incorporates the area proposed for the Sceirde Rocks windfarm. The report notes the importance of the area in terms of cetaceans, commercial fishing, seabirds, and seabed features of conservation importance.	The assessments provided in the supporting reports (particularly the Report to Inform Appropriate Assessment and Natura Impact Statement) have considered all relevant designated sites that have potential for interaction with the proposed surveys.
				Project impacts	Report on RTÉ Radio 1 on 14 February from a wind energy conference stated that wind farms off the west coast of Ireland will be floating turbines and will be up to 30km offshore and they won't be visible from land.	The FSL application is for marine surveys to be undertaken to support project design. Sceirde Rocks Offshore Wind Farm is a fixed bottom offshore wind farm off the West Coast of Ireland and under the Transitional Protocol is recognised as a Relevant or Phase One project. It is likely that the radio report was referring to potential future phasdes of development.
				Applicant	Macquarie Group has a poor track record in terms of financial management, maintenance of infrastructure, and protection of the environment	No evidence provided to support this claim.

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				Applicant	Macquarie's Green Investment Group (GIG) includes independent trustees, as part of the sale to Macquarie group by the UK Government. In their most recent annual letter (Letter from the GPC (greeninvestmentgroup.com)) these independent trustees highlighted concerns with regard to GIG's risk and opportunity management	It is not clear how this statement is relevant to the foreshore licence application.
12	FS007161	Resident	Anonymous	Various	Letter content is the same as Response 11	See Response 11
13	FS007161 and FS007543	Galway and Aran's Fisherman's Co-operative	N/A	Lobster/ Nephrops	Foreshore Licence lies with spawning grounds for Nephrops will high economic value and potential for negative impact	Typically, marine invertebrate species which lack a swim bladder or other air-filled space (such as crustaceans found in Irish waters, e.g. lobster, crab and prawn), are not considered to be sensitive to sound pressure (Marine Scotland, 2018). Sound waves in water are comprised of two parts, particle motion and pressure (Nedelec, 2016). It is thought that marine invertebrates will only detect the particle motion at low frequencies (Mooney et al., 2010 & 2012). In comparison with fish species, it has been noted that the marine invertebrates seem to be less sensitive to particle motion (Marine Scotland, 2018). While the sensitivity of marine invertebrates to particle motion is still in early stages of research (Lewandowski et al., 2016) there is little evidence to suggest underwater sound from geophysical surveys could have significant impacts on crustacean species. Focusing on lobsters and crabs within the marine invertebrate group, it is understood that they detect noise in the form of particle motion through mechano-receptors. These types of receptors include internal statocysts (a fluid filled chamber containing a relatively dense material (statolith)); chordontal organs (ciliated stretch receptors acting as proprioceptors in insects and Crustacea which may also have a role in detecting particle motion); and superficial surface receptors (Marine Scotland, 2018). Decapod crustaceans (such as lobster and crab) have been noted to have physiological resilience to underwater noise due to the lack of gas filled spaces. It has been noted that no lethal effects from underwater noise have been observed for crustacean species including edible crab Cancer pagurus, European lobster Homarus gammarus or the Norway lobster Nephrops norvegicus, although there is evidence sub-lethal physiological and behavioural effects among these species (Edmonds et al, 2016). One proposed geotechnical sampling method is vibratory coring (known as vibro coring). Vibro coring involves an oscillating motor attached to the core barrel which causes localised liquefaction in the sediments along the core barrel surface, which allows the core barrel to penetrate easier into the sediment. Vibro coring is not considered to be a particularly noisy activity, although sound associated with vibro coring would likely be audible above the sound of the vessel that the rig is deployed from (e.g. 180-190 dB (rms) re 1 micropascal @ 1 metre). Any impacts from sound generated during vibro coring will be short-lived due to the nature of how vibro coring rigs operate, i.e. short, intermittent pulses of vibration. This activity will not cause any long term significant environmental effects. In terms of physical vibrations, the short pulses of vibration will transfer through the core barrel into the sediment, but will not have an impact beyond the immediate vicinity of the coring operations as the energy dissipates through the sediment. Studies have looked at the sensitivity of crustaceans to substrate-borne vibrations considered and noted the greatest sensitivity at frequencies below 200 Hz (Marine Scotland, 2018). Other studies have looked at a species-specific example of N. norvegicus (can detect sounds between 20–180 Hz), and Panopeus crabs (can detect sounds between 90 -200Hz). Prawn (Palaemon serratus) is understood to detect sounds (through particle motion) at frequencies < 2000 Hz (Lovell et al. 2005). The potential geophysical surveys undertaken will likely emit noise between 20-200Hz (Edmonds et al, 2016). Whilst this sound source is within the range of sensitivity of

Submission	FSL Application	Consultee Organisation	Consultee Name	Topic	Overview of Comments	Applicant Response
						important crustacean species (crab, lobster, Nephrops, prawn) it is likely that any impacts would be minor due to the short term and temporary, localised impacts, and the physiological and behavioural resilience to underwater noise of those important crustacean species in the region. Long term impacts would not be expected beyond the duration of the geophysical/geotechnical surveys. Geotechnical drilling does not generate large amplitude sounds. One study reported sound output of 142 – 145 dB re 1 µPa at 1 metre (Erbe & McPherson, 2017) (note that noise from associated vessels could be significantly higher than the sound produced by geotechnical drilling). Decapod crustaceans are considered to be physiologically resilient to noise as they have no gas-filled cavities in their bodies; as a result, the likelihood of impact of geotechnical drilling on either Homarus or Nephrops species (decapod lobsters found in Irish waters) is very low. Erbe & McPherson (2017) recorded drilling sound from a comparable, small geotechnical drilling rig in shallow water. While the sounds recorded were ca. 35 dB above the ambient soundscape, and thus probably audible by marine animals, the sound levels recorded were tens of dB lower than the amplitude of sounds typically considered to be harmful in marine impact assessment, and are likely no louder than typical inshore vessel activity (Parsons et al., 2021). Sounds of this amplitude, across the duration of a campaign of geotechnical investigations lasting several days or a few weeks, may have minor behavioural impacts on crustaceans, as was observed in shore crabs exposed to seabed vibration (20 Hz) in laboratory conditions (Aimon et al. 2021). This species has also been observed to demonstrate reduced foraging and antipredator behaviour in the presence of elevated ambient noise levels (Wale et al. 2013). However, the geotechnical drilling is likely to be completed within a short campaign (ca. 3 days or less at each borehole) and is not believed to cause long-term impacts to these species. Following the completion of the geotechnical investigations at each location it is likely that behaviour of crustaceans found in Irish waters, e.g. lobster, crab and prawn will return to normal, with no long-lasting effects.
				cables	Negatiove impact of cables on nephrops	No installation of cables will take place as part of the surveys being proposed in the FSL application and therefore these impacts (including EMF) are not considered at this stage.
14	FS007161	University of Galway / Resident	Anonymous	Kelp	No assesment of macroalgal communities (kelp) in the 'Screening for Appropriate Assessment Report' of 'Natura Impact Statement'.	Kelp is not a qualifying interest feature of any designated sites that interact with the proposed survey activities and is therefore not included in the Report to Inform Appropriate Assessment Screening. Any impact to kelp would be consistent with the that descibred in our assessment reports which demonstrate the small footprint of our survey works relative to the wider area of habitat that is available. Each borehole, including equipment, will have a maximum footprint of only 20m2. This allows us to conclude that there will be no significant effect on seabed habitats due to the small scale and temporary nature of the survey works included within this FSL application.
				Project impacts	No assessment of climate change and carbon or wider construction/operation impacts of the offshore wind farm	The environmental assessment documents submitted with the FSL application are solely focused on assessing potential impacts of the survey activities included in the FSL application. The future EIA Report that will consider the whole Project development will include climate and carbon impacts and all construction/operation impacts and will be submitted with a future development consent application.

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				Kelp	No information on the presence of and therefore potential impacts of kelp beds	The purpose of the surveys being requested as part of the FSL application will provide data and evidence on presence of kelp habitats to inform future project design and micrositing where possible. The level of disturbance and impact being referred to by the consultee is of relevance to the future assessment of the whole Sceirde Rocks offshore wind farm project and not the small scale, local discturbance impacts of the survey activities of the FSL application.
15	FS007161	Resident	Anonymous	Turbines	Object to size and scale of turbines	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered.
16	FS007161	Resident	Anonymous	Various	Letter content is the same as Submission 15	See response to Submission 15
17	FS007161	N/A	Anonymous	Turbines	Object to size and scale of turbines	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered.
18	FS007161	N/A	Anonymous	Turbines	Impacts from the wider offshore wind farm project, turbines and industrialisation	The impacts referred to by the consultee are not of relevance to the survey works being considered as part of the FSL application. The future EIA Report that will consider the whole Project development and all potential construction/operation impacts and will be submitted with a future development consent application.
19	FS007161	N/A	Anonymous	Turbines	Object to location of turbines so close to coast	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered.
20	FS007161	N/A	Anonymous	Turbines	Impacts from the wider offshore wind farm project, turbines and industrialisation	Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered.
21	FS007161	Galway Bay Inshore Fishermen's Association	N/A	Consultation	Lack of consultation with GBIFA	FST provided all requried hard copies in the required locations for consultation as instructed and approved by the Department with all documents also available online. Information about the consultation was included in very large notices in two local and one national newspaper on two separate occasions. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Cumulative	Cumulative impact of both FS007161 and FS007543	The information provided in our Environmental Assessment and EIA Screening Report demostrates that any disruption from survey activitiy will be short term, temporary and not significant on both fishing activity and fish ecology and there will be no significant cumulative impact. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Project impacts	Concern over long term impacts of displacement, wind farm construction and cable laying	The construction and operation of a wind farm and export cable route are not the subject of this FSL application. The future EIA Report that will consider the whole Project development and all potential construction/operation impacts and will be submitted with a future development consent application.
				Fishing gear	Safety and protection of static fishing gear must be considered and managed	In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The

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						Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Designated Sites	Concerned of the impact of the surveys on the Galway Bay SAC and other SACs	The Applicant has confirmed that no intrusive survey work will take place within an SAC or SPA. The assessments provided in the Report to Inform Appropriate Assessment and Natura Impact Statement demonstrates that survey work outwith the designated sites will have no significant effect on the qualifying features of designated sites in the vicinity of the survey work.
				Marine Institute	The Marine Institute work closely with Galway Bay Inshore Fishermen's Assocation and West Regional Inshore Fisheries Forum.	The Application recognises the importance of ongoing consultation with the Marine Institute and fisheries organisations. The Marine Institute raised no objection to the FSL application in their response.
				Crustaceans	Concern of the impact on increase suspend solids on marine benthic organisms and fish from coring fluids and cuttings particularly on brown crab and lobster (female carrying eggs).	Borehole coring may be conducted with seawater only, with no added chemicals. It is possible that coring fluids may be used when required. The most likely fluid in this case would be an organic, biodegradable, high performance water-based mud (HPWBM). Bentonite will also be carried onboard in case it is needed and this may sometimes be mixed with soda ash. All proposed coring fluid products are rated as PLONOR (posing little or no risk to the environment). Only minimal amounts of cuttings will be discharged because 80 - 90% of the core is recovered for analysis. Cuttings are discharged and will settle close to the seabed and are estimated to amount to <0.25 m3 per borehole. Potential seabed impacts from the coring of each borehole are likely to be minor and localised. Given the highly dynamic marine environment in the Foreshore Licence Area, it is expected that any chemicals from coring fluid and suspended particles will be quickly dispersed in the water column to negligible concentrations. Given the small size of the boreholes (up to 70 m depth and 100 mm diameter), the very low toxicity of the fluids and the very small quantities of cuttings discharged at the seabed (estimated at <0.25 m3), there will be no likely significant effect on benthic species and habitats from cuttings or coring fluid discharges.
				Cables	EMF impacts from power cables on fish and shellfish	No installation of cables will take place as part of the surveys being proposed in the FSL application and therefore these impacts (including EMF) are not considered at this stage.
				Project impacts	Landing point at Kilcogan Point - what are the next steps to bring power ashore and interfaction with SAC and SPA sites	To support of development consent application for the Sceirde Rocks OWF project an EIA Report and Natura Impact Statement will be produced that considers all potential construction , operation and decommissioning impacts from the project itself. The surveys proposed in this FSL application will provide essential data to support future project design, micrositing and cable routeing activites.
				Galway Bay Complex SAC	Concerned that benthic, CPT and vibracore surveying due to take place in and around the Galway Bay SAC is lliekly to have a significant effect. Do not accept the conclusion that the survey works are likely to not have a significant effect.	The Applicant has confirmed that no intrusive survey work will take place within an SAC or SPA. The assessments provided in the Report to Inform Appropriate Assessment and Natura Impact Statement demonstrates that survey work outwith the designated sites will have no significant effect on the qualifying features of designated sites in the vicinity of the survey work. These assessments were undertaken by independent experts with decades of experience in environmental assessments and the interaction of survey works such as these with designated sites. Therefore the Applicant is confident in the robustness of the assessments provided.

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				Marine mammals	Concerned about impacts on other protected species - bottlenose dolphin, common seal, grey seal, humpback whale and otters.	Humpback whales are known to prefer deeper waters and are therefore unlikely to be encounterd across the foreshore licence area. The Report to Inform Appropriate Assessment and Natura Impact Statement submitted with the FSL application provide detail and evidence of why there will be no significant effect from the survey activities on marine mammal protected species (including those listed in the consultee response) and otters. In addition the surveys will be undertaken in strict adherence to the NWPS 2014 guidance ""Guidance to manage risk to marine mammals from man-made sound sources" which provides suitable mitigation to remove any impact on all marine mammal species including bottlenose dolphin, common seal, grey seal, humpback whale and otters. To support of development consent application for the Sceirde Rocks OWF project an EIA Report and Natura Impact Statement will be produced that considers all potential construction , operation and decommissioning impacts from the project itself.
				Lobster juvenilles	The licence area contains a lobster nursery ground. The assessment maeks no reference to the damage that will be caused by the disturbance to the seabed and hidden juveniles	The environmental assessment included with the FSL application concludes no significant impact due to the relatively small footprint of the survey works in relation to the wider habitat availability. Lobster are not a protected species in this area and are commercially fished on a large scale. Any impact on hidden juvenilles would be would be small, highly localised, temporary and therefore not significant.
				Clam	No reference to the Atlantic Surf Clam and the impacts on the clam from surveys. Clam will not move and will filter the water they are in. Concerned about water quality issues from seabed disturbance/ vessel discharges/coring fluids leading to contamination and shellfish not fit for human consumption.	Borehole coring may be conducted with seawater only, with no added chemicals. It is possible that coring fluids may be used when required. The most likely fluid in this case would be an organic, biodegradable, high performance water-based mud (HPWBM). Bentonite will also be carried onboard in case it is needed and this may sometimes be mixed with soda ash. All proposed coring fluid products are rated as PLONOR (posing little or no risk to the environment). Only minimal amounts of cuttings will be discharged because 80 - 90% of the core is recovered for analysis. Cuttings are discharged and will settle close to the seabed and are estimated to amount to <0.25 m3 per borehole. Potential seabed impacts from the coring of each borehole are likely to be minor and localised. Given the highly dynamic marine environment in the Foreshore Licence Area, it is expected that any chemicals from coring fluid and suspended particles will be quickly dispersed in the water column to negligible concentrations. Given the small size of the boreholes (up to 70 m depth and 100 mm diameter), the very low toxicity of the fluids and the very small quantities of cuttings discharged at the seabed (estimated at <0.25 m3), there will be no likely significant effect on species and habitats from cuttings or coring fluid discharges. The Applicant will ensure that all survey contracts work in compliance with International Maritime Organisation standards . The risk from releases of fuel during bunkering is removed as there will be no offshore bunkering. A hydrocarbon spill due to loss of fuel inventory following a vessel collision would require the following sequence of events: • A cause of vessel interaction must result in a collision; • The collision must have enough force to penetrate the vessel hull; • The collision must be in the exact location of the fuel tank; and • The fuel tank must be full, or at least of volume whereby the fuel level is higher than the point of penetration. The probability of this chain of events aligning to result in a breach of fuel tanks resulting in a spill that could potentially affect the marine environment is considered remote and therefore such a release is not considered a credible scenario. The only credible type of accidental release from the site investigations is the spillage of hydrocarbons (diesel fuel, hydraulic oil and lubricants) or chemicals (coring fluids) from vessel decks during storage or handling. Only very small amounts of fuel or chemicals could be released in this way, and measures will be in place to prevent or respond to any such releases. Given the short duration of the site investigation activities and the low risks to the environment from accidental releases, it is concluded that significant environmental effects associated with hydrocarbon or chemical spills are highly unlikely and can be discounted from further assessment. In the highly unlikely event of any accidental spillage, the Applicant will contact SFPA.

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				Prawns	Concern about restricted access to prawn fishing grounds	In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Prawns	Concern about EMF impacts causing deformaties and effect survival rates on prawns	No installation of cables will take place as part of the surveys being proposed in the FSL application and therefore these impacts (including EMF) are not considered at this stage.
				Noise	We are concerned about noise on the SAC amd species we fish	Section 4.3 of the Report to Inform Appropriate Assessment, a robust justification is provided as to why the fish species which are qualifying features of the nearby designated sites are highly unlikely to experience any disturbance or barrier effect from underwater noise from the survey activities. Typically, marine invertebrate species which lack a swim bladder or other air-filled space (such as crustaceans found in Irish waters, e.g. lobster, crab and prawn), are not considered to be sensitive to sound pressure (Marine Scotland, 2018). Sound waves in water are comprised of two parts, particle motion and pressure (Nedelec, 2016). It is thought that marine invertebrates will only detect the particle motion at low frequencies (Mooney et al., 2010 & 2012). In comparison with fish species, it has been noted that the marine invertebrates seem to be less sensitive to particle motion (Marine Scotland, 2018). While the sensitivity of marine invertebrates to particle motion is still in early stages of research (Lewandowski et al., 2016) there is little evidence to suggest underwater sound from geophysical surveys could have significant impacts on crustacean species. Focusing on lobsters and crabs within the marine invertebrate group, it is understood that they detect noise in the form of particle motion through mechano-receptors. These types of receptors include internal statocysts (a fluid filled chamber containing a relatively dense material (statolith)); chordontal organs (ciliated stretch receptors acting as proprioceptors in insects and Crustacea which may also have a role in detecting particle motion); and superficial surface receptors (Marine Scotland, 2018). Decapod crustaceans (such as lobster and crab) have been noted to have physiological resilience to underwater noise due to the lack of gas filled spaces. It has been noted that no lethal effects from underwater noise have been observed for crustacean species including edible crab Cancer pagurus, European lobster Homarus gammarus or the Norway lobster Nephrops norvegicus, although there is evidence sub-lethal physiological and behavioural effects among these species (Edmonds et al, 2016). One proposed geotechnical sampling method is vibratory coring (known as vibro coring). Vibro coring involves an oscillating motor attached to the core barrel which causes localised liquefaction in the sediments along the core barrel surface, which allows the core barrel to penetrate easier into the sediment. Vibro coring is not considered to be a particularly noisy activity, although sound associated with vibro coring would likely be audible above the sound of the vessel that the rig is deployed from (e.g. 180-190 dB (rms) re 1 micropascal @ 1 metre). Any impacts from sound generated during vibro coring will be short-lived due to the nature of how vibro coring rigs operate, i.e. short, intermittent pulses of vibration. This activity will not cause any long term significant environmental effects. In terms of physical vibrations, the short pulses of vibration will transfer through the core barrel into the sediment, but will not have an impact beyond the immediate vicinity of the coring operations as the energy dissipates through the sediment. Studies have looked at the sensitivity of crustaceans to substrate-borne vibrations considered and noted the greatest sensitivity at frequencies below 200 Hz (Marine Scotland, 2018). Other studies have looked at a species-specific example of N. norvegicus (can detect sounds between 20–180 Hz), and Panopeus crabs (can detect sounds between 90 -200Hz). Prawn (Palaemon serratus) is understood to detect sounds (through particle motion) at frequencies < 2000 Hz (Lovell et al. 2005). The potential geophysical surveys undertaken will likely emit noise between 20-200Hz (Edmonds et al, 2016). Whilst this sound source is within the range of sensitivity of important crustacean species (crab, lobster, Nephrops, prawn) it is likely that any impacts would be minor due to the short term and

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						temporary, localised impacts, and the physiological and behavioural resilience to underwater noise of those important crustacean species in the region. Long term impacts would not be expected beyond the duration of the geophysical/geotechnical surveys. Geotechnical drilling does not generate large amplitude sounds. One study reported sound output of 142 – 145 dB re 1 µPa at 1 metre (Erbe & McPherson, 2017) (note that noise from associated vessels could be significantly higher than the sound produced by geotechnical drilling). Decapod crustaceans are considered to be physiologically resilient to noise as they have no gas-filled cavities in their bodies; as a result, the likelihood of impact of geotechnical drilling on either Homarus or Nephrops species (decapod lobsters found in Irish waters) is very low. Erbe & McPherson (2017) recorded drilling sound from a comparable, small geotechnical drilling rig in shallow water. While the sounds recorded were ca. 35 dB above the ambient soundscape, and thus probably audible by marine animals, the sound levels recorded were tens of dB lower than the amplitude of sounds typically considered to be harmful in marine impact assessment, and are likely no louder than typical inshore vessel activity (Parsons et al., 2021). Sounds of this amplitude, across the duration of a campaign of geotechnical investigations lasting several days or a few weeks, may have minor behavioural impacts on crustaceans, as was observed in shore crabs exposed to seabed vibration (20 Hz) in laboratory conditions (Aimon et al. 2021). This species has also been observed to demonstrate reduced foraging and antipredator behaviour in the presence of elevated ambient noise levels (Wale et al. 2013). However, the geotechnical drilling is likely to be completed within a short campaign (ca. 3 days or less at each borehole) and is not believed to cause long-term impacts to these species. Following the completion of the geotechnical investigations at each location it is likely that behaviour of crustaceans found in Irish waters, e.g. lobster, crab and prawn will return to normal, with no long-lasting effects.

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				Survey locations	Exact locations of sampling locations unknown. Whilst the applicant has stated no intrusive surveys within an SAC or SPA, this does not account for contamination or disturbance through tides/winds	Indicative survey locations is a common approach to FSL applications with exact locations confirmed at a later date. All locations will be within the FSL area. Borehole coring may be conducted with seawater only, with no added chemicals. It is possible that coring fluids may be used when required. The most likely fluid in this case would be an organic, biodegradable, high performance water-based mud (HPWBM). Bentonite will also be carried onboard in case it is needed and this may sometimes be mixed with soda ash. All proposed coring fluid products are rated as PLONOR (posing little or no risk to the environment). Only minimal amounts of cuttings will be discharged because 80 - 90% of the core is recovered for analysis. Cuttings are discharged and will settle close to the seabed and are estimated to amount to <0.25 m3 per borehole. Potential seabed impacts from the coring of each borehole are likely to be minor and localised. Given the highly dynamic marine environment in the Foreshore Licence Area, it is expected that any chemicals from coring fluid and suspended particles will be quickly dispersed in the water column to negligible concentrations. Therefore it is highly unlikely that there will be any significant increase is suspended sediment within any designated sites. Given the small size of the boreholes (up to 70 m depth and 100 mm diameter), the very low toxicity of the fluids and the very small quantities of cuttings discharged at the seabed (estimated at <0.25 m3), there will be no likely significant effect on species and habitats from cuttings or coring fluid discharges. Benthic and geotechnical survey sampling will also cause a small amount of sediment to become suspended in the water and subsequently dispersed and deposited on the seabed at a location depending on wave and tidal conditions. However, any deposition of material will be insignificant compared to baseline levels of sediment movement within the Foreshore Licence Area. In addition, equipment required or installed as part of the site investigation activities will not cause any physical obstruction or cause any potential alteration to the natural physical processes (water and sediment movement) of any designated site.

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				Legislative compliance	it is impossible for the applicant to have complied with its legislative requirements pursuant to the Foreshore Acts and the Planning and Development Acts and Regulations and the EIA Directive 2011/92/EC and Habitats Directive	The Galway Bay Inshore Fishermen's Association has not explained, or provided any evidence to support, how or why it is alleged that it is impossible for the applicant to have complied with its legislative requirements. The Applicant considers that it has complied with all of these, to the extent that they are relevant. For completeness, we have considered the appliability of the legislation referenced in this submission: The Planning and Development Acts 2000 - 2022 and Planning and Development Regulations 2001 - 2022 are not applicable to any application for a Foreshore Licence for site investigations. Environmental Impact Assessment Directive The applicant prepared a screening report for the purposes of Directive 2011/92/EC (the Environmental Impact Assessment ("EIA") Directive). This was submitted, together with an Environmental Assessment, as part of the Sceirde Rocks' Foreshore Licence application. It was concluded, in the EIA Screening Report, that the proposed site investigations: • Do not fall under the description of activities included within Annex I or Annex II of the Directive; and • Are of such a nature, scale and location that there are no foreseeable significant effects on the environment arising from the proposed activities. On that basis, the need for an EIA to be carried out in respect of the proposed site investigations works can be screened out. For completeness, it should be noted that windfarm project itself will be subject to the EIA Directive and an EIA Report will be prepared. Foreshore Acts The applications for Foreshore Licences were submitted in full compliance with the relevant provisions of the Foreshore Acts 1933 (as amended). Habitats Directive An Appropriate Assessment Screening Report and Natura Impact Statement were submitted with the application, and which were prepared in compliance with the relevant provisions of the Habitats Directive and European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).
				Socio-economic	The assessment relies on data limited to vessels over 12 metres in length and there has been no consultation to gather information from local fishermen	VMS data was used in the Environmental Assessment and EIA Screening Report to help charactise the baseline shipping activity and identify key routes in and out of ports/harbours. The VMS data was not relied upon for any assessment conclusions. The Applicant acknowledged in the Environmental Assessment and EIA Screening Report that this data would not capture the under 12m fleet. The Applicant has been advised by an expert Fisheries Liaison Officer since early 2022 and has engaged in direct discussions with local fishers and is aware of the commercial fisheries interests in the area. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.

Submission	FSL Application	Consultee Organisation	Consultee Name	Topic	Overview of Comments	Applicant Response
				Fishing gear	High volume of static fishing gear within the survey area that has not been considered due to lack of consultation	The Applicant has been advised by an expert Fisheries Liaison Officer since early 2022 and has engaged in direct discussions with local fishers and is aware of the commercial fisheries interests in the area. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Fishing	No assessment of the socio-economic impact of the 500 metre safety zone during estimated 2-5 months in different phases over 5 years.	In advance of survey mobilisation, a notice to mariners will be issued by FST in line with accepted maritime safety practice requesting that whilst the geotechnical survey vessel is on location, a temporary 500 m radius safety zone should be maintained around it at each borehole location. The purpose of the safety zone is to ensure the safety of all personnel involved and to minimise the risk of collisions between the survey vessel and other vessels in the area. As such, the 500 m safety zone (with an area of approximately 0.8 km2 around each borehole location) will exclude other sea users, including fisheries, at each borehole location in turn. The safety zone will not be maintained once each borehole is complete. Each borehole is expected to take 1.5-4 days. therefore each temporary safety zone will only be in place for a very short duration. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Licence conditions	The consultee has recommend a number of licence conditions to be attached with any FSL consent	It is for the Department to consider and include licence conditions as they determine necessary.
22	FS007161	Cumann Iascairi Oileain Arann	Anonymous	Consultation	Lack of consultation with CIOA	FST provided all requried hard copies in the required locations for consultation as instructed and approved by the Department with all documents also available online. Information about the consultation was included in very large notices in two local and one national newspaper on two separate occasions. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Cumulative	Cumulative impact of both FS007161 and FS007543	The information provided in our Environmental Assessment and EIA Screening Report demostrates that any disruption from survey activitiy will be short term, temporary and not significant on both fishing activity and fish ecology and there will be no significant cumulative impact. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.

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				Project impacts	Concern over long term impacts of displacement, wind farm construction and cable laying	The construction and operation of a wind farm and export cable route are not the subject of this FSL application. The future EIA Report that will consider the whole Project development and all potential construction/operation impacts and will be submitted with a future development consent application.
				Fishing gear	Safety and protection of static fishing gear must be considered and managed	In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Designated Sites	Concerned of the impact of the surveys on the Galway Bay SAC and other SACs	The Applicant has confirmed that no intrusive survey work will take place within an SAC or SPA. The assessments provided in the Report to Inform Appropriate Assessment and Natura Impact Statement demonstrates that survey work outwith the designated sites will have no significant effect on the qualifying features of designated sites in the vicinity of the survey work.
				Marine Institute	The Marine Institute work closely with Galway Bay Inshore Fishermen's Assocation and West Regional Inshore Fisheries Forum.	The Application recognises the importance of ongoing consultation with the Marine Institute and fisheries organisations. The Marine Institute raised no objection to the FSL application in their response.
				Crustaceans	Concern of the impact on increase suspend solids on marine benthic organisms and fish from coring fluids and cuttings particularly on brown crab and lobster (female carrying eggs).	Borehole coring may be conducted with seawater only, with no added chemicals. It is possible that coring fluids may be used when required. The most likely fluid in this case would be an organic, biodegradable, high performance water-based mud (HPWBM). Bentonite will also be carried onboard in case it is needed and this may sometimes be mixed with soda ash. All proposed coring fluid products are rated as PLONOR (posing little or no risk to the environment). Only minimal amounts of cuttings will be discharged because 80 - 90% of the core is recovered for analysis. Cuttings are discharged and will settle close to the seabed and are estimated to amount to <0.25 m3 per borehole. Potential seabed impacts from the coring of each borehole are likely to be minor and localised. Given the highly dynamic marine environment in the Foreshore Licence Area, it is expected that any chemicals from coring fluid and suspended particles will be quickly dispersed in the water column to negligible concentrations. Given the small size of the boreholes (up to 70 m depth and 100 mm diameter), the very low toxicity of the fluids and the very small quantities of cuttings discharged at the seabed (estimated at <0.25 m3), there will be no likely significant effect on benthic species and habitats from cuttings or coring fluid discharges.
				Cables	EMF impacts from power cables on fish and shellfish	No installation of cables will take place as part of the surveys being proposed in the FSL application and therefore these impacts (including EMF) are not considered at this stage.
				Project impacts	Landing point at Kilcogan Point - what are the next steps to bring power ashore and interaction with SAC and SPA sites	To support of development consent application for the Sceirde Rocks OWF project an EIA Report and Natura Impact Statement will be produced that considers all potential construction , operation and decommissioning impacts from the project itself. The surveys proposed in this FSL application will provide essential data to support future project design, micrositing and cable routeing activites.
				Marine mammals	Concerned about impacts on other protected species - bottlenose dolphin, common seal, grey seal, humpback whale and otters.	Humpback whales are known to prefer deeper waters and are therefore unlikely to be encounterd across the foreshore licence area. The Report to Inform Appropriate Assessment and Natura Impact Statement submitted with the FSL application provide detail and evidence of why there will be no significant effect from the survey activities on marine mammal protected species (including those listed in the consultee response) and otters. In addition the surveys will be undertaken in strict adherence to the NWPS 2014 guidance ""Guidance to manage risk to marine mammals from man-made sound sources" which provides suitable mitigation to remove any impact on all marine mammal species including bottlenose dolphin, common seal, grey seal, humpback whale and otters.

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						To support of development consent application for the Sceirde Rocks OWF project an EIA Report and Natura Impact Statement will be produced that considers all potential construction , operation and decommissioning impacts from the project itself.
				Underwater noise	We as local fishermen have had some negative experiences with underwater eco sounding/blasting in the area. In 2019, a survey took place in the area to review the ground adjacent to the pier on Inis Oírr. A member of our Cumann Iascairi Oileáin Árann group had 3 boxes of lobster stored in the pier ready for sale. When the store pots were pulled out of the water, all of the lobsters were dead and omitted a white powder like substance. We suspect the surveying caused great stress to the lobsters and caused their death. We are attaching photos. We accept that the intention behind the off shore wind farm projects is to create green energy for environmental reasons however, we are concerned that the surveying and building methods will cause environmental damage to the habitats and species in the area. The application accepts that noise could be an issue for certain species but makes no reference and assessment to crustaceans.	Typically, marine invertebrate species which lack a swim bladder or other air-filled space (such as crustaceans found in Irish waters, e.g. lobster, crab and prawn), are not considered to be sensitive to sound pressure (Marine Scotland, 2018). Sound waves in water are comprised of two parts, particle motion and pressure (Nedelec, 2016). It is thought that marine invertebrates will only detect the particle motion at low frequencies (Mooney et al., 2010 & 2012). In comparison with fish species, it has been noted that the marine invertebrates seem to be less sensitive to particle motion (Marine Scotland, 2018). While the sensitivity of marine invertebrates to particle motion is still in early stages of research (Lewandowski et al., 2016) there is little evidence to suggest underwater sound from geophysical surveys could have significant impacts on crustacean species. Focusing on lobsters and crabs within the marine invertebrate group, it is understood that they detect noise in the form of particle motion through mechano-receptors. These types of receptors include internal statocysts (a fluid filled chamber containing a relatively dense material (statolith)); chordontal organs (ciliated stretch receptors acting as proprioceptors in insects and Crustacea which may also have a role in detecting particle motion); and superficial surface receptors (Marine Scotland, 2018). Decapod crustaceans (such as lobster and crab) have been noted to have physiological resilience to underwater noise due to the lack of gas filled spaces. It has been noted that no lethal effects from underwater noise have been observed for crustacean species including edible crab Cancer pagurus, European lobster Homarus gammarus or the Norway lobster Nephrops norvegicus, although there is evidence sub-lethal physiological and behavioural effects among these species (Edmonds et al, 2016). One proposed geotechnical sampling method is vibratory coring (known as vibro coring). Vibro coring involves an oscillating motor attached to the core barrel which causes localised liquefaction in the sediments along the core barrel surface, which allows the core barrel to penetrate easier into the sediment. Vibro coring is not considered to be a particularly noisy activity, although sound associated with vibro coring would likely be audible above the sound of the vessel that the rig is deployed from (e.g. 180-190 dB (rms) re 1 micropascal @ 1 metre). Any impacts from sound generated during vibro coring will be short-lived due to the nature of how vibro coring rigs operate, i.e. short, intermittent pulses of vibration. This activity will not cause any long term significant environmental effects. In terms of physical vibrations, the short pulses of vibration will transfer through the core barrel into the sediment, but will not have an impact beyond the immediate vicinity of the coring operations as the energy dissipates through the sediment. Studies have looked at the sensitivity of crustaceans to substrate-borne vibrations considered and noted the greatest sensitivity at frequencies below 200 Hz (Marine Scotland, 2018). Other studies have looked at a species-specific example of N. norvegicus (can detect sounds between 20–180 Hz), and Panopeus crabs (can detect sounds between 90 -200Hz). Prawn (Palaemon serratus) is understood to detect sounds (through particle motion) at frequencies < 2000 Hz (Lovell et al. 2005). The potential geophysical surveys undertaken will likely emit noise between 20-200Hz (Edmonds et al, 2016). Whilst this sound source is within the range of sensitivity of important crustacean species (crab, lobster, Nephrops, prawn) it is likely that any impacts would be minor due to the short term and temporary, localised impacts, and the physiological and behavioural resilience to underwater noise of those important crustacean species in the region. Long term impacts would not be expected beyond the duration of the geophysical/geotechnical surveys. Geotechnical drilling does not generate large amplitude sounds. One study reported sound output of 142 – 145 dB re 1 µPa at 1 metre (Erbe & McPherson, 2017) (note that noise from associated vessels could be significantly higher than the sound produced by

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						geotechnical drilling). Decapod crustaceans are considered to be physiologically resilient to noise as they have no gas-filled cavities in their bodies; as a result, the likelihood of impact of geotechnical drilling on either Homarus or Nephrops species (decapod lobsters found in Irish waters) is very low. Erbe & McPherson (2017) recorded drilling sound from a comparable, small geotechnical drilling rig in shallow water. While the sounds recorded were ca. 35 dB above the ambient soundscape, and thus probably audible by marine animals, the sound levels recorded were tens of dB lower than the amplitude of sounds typically considered to be harmful in marine impact assessment, and are likely no louder than typical inshore vessel activity (Parsons et al., 2021). Sounds of this amplitude, across the duration of a campaign of geotechnical investigations lasting several days or a few weeks, may have minor behavioural impacts on crustaceans, as was observed in shore crabs exposed to seabed vibration (20 Hz) in laboratory conditions (Aimon et al. 2021). This species has also been observed to demonstrate reduced foraging and antipredator behaviour in the presence of elevated ambient noise levels (Wale et al. 2013). However, the geotechnical drilling is likely to be completed within a short campaign (ca. 3 days or less at each borehole) and is not believed to cause long-term impacts to these species. Following the completion of the geotechnical investigations at each location it is likely that behaviour of crustaceans found in Irish waters, e.g. lobster, crab and prawn will return to normal, with no long-lasting effects.
				Cable laying	We have concerns for the environmental impact on various hard ground outcrops along with cable corridor investigative track. If a licence is granted and the project moves onto the cable laying stage, we are concerned as to whether the cable along these hard outcroups (that cannot be buried) will be exposed, covered with concrete mattressing or rock armour.	No installation of cables will take place as part of the surveys being proposed in the FSL application and therefore these impacts are not considered at this stage. The future EIA Report that will consider the whole Project development and all potential construction/operation impacts and will be submitted with a future development consent application.

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				Scale	We submit that the proposed investigations are excessive and not necessary at this stage. It seems the applicant is seeking extensive survey permission for various landfall points including significant CPT/vibrocore, benthic and borehole locations	The surveys proposed in this FSL application will provide essential data to support future project design, micrositing and cable routeing activites which has the overall aim of reducing potential environmental impacts from the construction and operation of the offshore wind farm.
				Lobster juvenilles	The licence area contains a lobster nursery ground. The assessment maeks no reference to the damage that will be caused by the disturbance to the seabed and hidden juveniles	The environmental assessment included with the FSL application concludes no significant impact due to the relatively small footprint of the survey works in relation to the wider habitat availability. Lobster are not a protected species in this area and are commercially fished on a large scale. Any impact on hidden juvenilles would be would be small, highly localised, temporary and therefore not significant.
				Survey locations	Exact locations of sampling locations unknown. Whilst the applicant has stated no intrusive surveys within an SAC or SPA, this does not account for contamination or disturbance through tides/winds	Indicative survey locations is a common approach to FSL applications with exact locations confirmed at a later date. All locations will be within the FSL area. Borehole coring may be conducted with seawater only, with no added chemicals. It is possible that coring fluids may be used when required. The most likely fluid in this case would be an organic, biodegradable, high performance water-based mud (HPWBM). Bentonite will also be carried onboard in case it is needed and this may sometimes be mixed with soda ash. All proposed coring fluid products are rated as PLONOR (posing little or no risk to the environment). Only minimal amounts of cuttings will be discharged because 80 - 90% of the core is recovered for analysis. Cuttings are discharged and will settle close to the seabed and are estimated to amount to <0.25 m3 per borehole. Potential seabed impacts from the coring of each borehole are likely to be minor and localised. Given the highly dynamic marine environment in the Foreshore Licence Area, it is expected that any chemicals from coring fluid and suspended particles will be quickly dispersed in the water column to negligible concentrations. Therefore it is highly unlikely that there will be any significant increase is suspended sediment within any designated sites. Given the small size of the boreholes (up to 70 m depth and 100 mm diameter), the very low toxicity of the fluids and the very small quantities of cuttings discharged at the seabed (estimated at <0.25 m3), there will be no likely significant effect on species and habitats from cuttings or coring fluid discharges. Benthic and geotechnical survey sampling will also cause a small amount of sediment to become suspended in the water and subsequently dispersed and deposited on the seabed at a location depending on wave and tidal conditions. However, any deposition of material will be insignificant compared to baseline levels of sediment movement within the Foreshore Licence Area. In addition, equipment required or installed as part of the site investigation activities will not cause any physical obstruction or cause any potential alteration to the natural physical processes (water and sediment movement) of any designated site.

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				Legislative compliance	it is impossible for the applicant to have complied with its legislative requirements pursuant to the Foreshore Acts and the Planning and Development Acts and Regulations and the EIA Directive 2011/92/EC and Habitats Directive	Cumann Iascairi Oilean Arann has not explained, or provided any evidence to support, how or why it is alleged that it is impossible for the applicant to have complied with its legislative requirements.. The Applicant considers that it has complied with all of these, to the extent that they are relevant. For completeness, we have considered the appliability of the legislation referenced in this submission: The Planning and Development Acts 2000 - 2022 and Planning and Development Regulations 2001 - 2022 are not applicable to any application for a Foreshore Licence for site investigations. Environmental Impact Assessment Directive The applicant prepared a screening report for the purposes of Directive 2011/92/EC (the Environmental Impact Assessment ("EIA") Directive). This was submitted, together with an Environmental Assessment, as part of the Sceirde Rocks' Foreshore Licence application. It was concluded, in the EIA Screening Report, that the proposed site investigation: • Do not fall under the description of activities included within Annex I or Annex II of the Directive; and • Are of such a nature, scale and location that there are no foreseeable significant effects on the environment arising from the proposed activities. On that basis, the need for an EIA to be carried out in respect of the proposed site investigations can be screened out. For completeness, it should be noted that windfarm project itself will be subject to the EIA Directive and an EIA Report will be prepared. Foreshore Acts The applications for Foreshore Licences were submitted in full compliance with the relevant provisions of the Foreshore Acts 1933 (as amended). Habitats Directive An Appropriate Assessment Screening Report and Natura Impact Statement were submitted with the application, and which were prepared in compliance with the relevant provisions of the Habitats Directive and European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).
				Socio-economic	The assessment relies on data limited to vessels over 12 metres in length and there has been no consultation to gather information from local fishermen	The Applicant has been advised by an expert Fisheries Liaison Officer since early 2022 and has engaged in direct discussions with local fishers and is aware of the commercial fisheries interests in the area. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Fishing gear	High volume of static fishing gear within the survey area that has not been considered due to lack of consultation	The Applicant has been advised by an expert Fisheries Liaison Officer since early 2022 and has engaged in direct discussions with local fishers and is aware of the commercial fisheries interests in the area. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The

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						Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Fishing	No assessment of the socio-economic impact of the 500 metre safety zone during estimated 2-5 months in different phases over 5 years.	In advance of survey mobilisation, a notice to mariners will be issued by FST in line with accepted maritime safety practice requesting that whilst the geotechnical survey vessel is on location, a temporary 500 m radius safety zone should be maintained around it at each borehole location. The purpose of the safety zone is to ensure the safety of all personnel involved and to minimise the risk of collisions between the survey vessel and other vessels in the area. As such, the 500 m safety zone (with an area of approximately 0.8 km2 around each borehole location) will exclude other sea users, including fisheries, at each borehole location in turn. The safety zone will not be maintained once each borehole is complete. Each borehole is expected to take 1.5-4 days. therefore each temporary safety zone will only be in place for a very short duration. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Licence conditions	The consultee has recommend a number of licence conditions to be attached with any FSL consent	It is for the Department to consider and include licence conditions as they determine necessary.
23	FS007161	Breizon Ltd	Anonymous	Economic	no compensation received as a result of 2022 surveys and significant concerns we will suffer significant losses with intrusive surveys and future construction and operation phase	Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
24	FS007161	n/a	Anonymous	heritage	Concerns about the apparent failure to put in place a transparent process to make people in general and Connemara and Aran coastal dwellers and Coastal users in particular, aware of the implications of these proposed permits in relation to traditional rights and in relation to heritage protection	FST provided all requried hard copies in the required locations for consultation as instructed and approved by the Department with all documents also available online. Information about the consultation was included in very large notices in two local and one national newspaper on two separate occasions. Consideration of the proposed survey activity on marine archaeology is considered within the Environmental Assessment and EIA Screening Report.
25	FS007161	Iascairi Sceirde fishing group	Anonymous	Consultation	Lack of consultation with stakeholders	The Applicant has been advised by an expert Fisheries Liaison Officer since early 2022 and has engaged in direct discussions with local fishers and is aware of the commercial fisheries interests in the area. FST provided all requried hard copies in the required locations for consultation as instructed and approved by the Department with all documents also available online. Information about the consultation was included in very large notices in two local and one national newspaper on two separate occasions.

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				Fishing gear	The area is intensively fished with an estimated 10,000-12,000 pots and miles of crayfish nets. Fishermen rely on this gear to make a living. Standard form of conditions granted in the past by the Minister do not provide adequate protection for fishermen.	The Applicant has been advised by an expert Fisheries Liaison Officer since early 2022 and has engaged in direct discussions with local fishers and is aware of the commercial fisheries interests in the area. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Data	In circumstances where the Applicant is relying on inaccurate maps and data, it is obvious the assessements carried out are not reliable	The Applicant welcomes the references for additional data sources which can be used in future assessments in support of the offshore wind farm development consent application. The Applicant is confident in the robustness of the assessment of potential impacts from the proposed survey works and fish and shellfish species in the area with a strong focus on the short term, temporary nature of the surveys and the small seabed footprint of the surveys in relation to the wider habitat availability.
				Fishing gear	We are concerned about the 500m exclusion zones in the area. There will be pots and nets fishing string with leaders to the surface in this area. The fishermen's most productive time of year is between May-October. A 500 meter exclusion zone means we cannot access our gear and will be displaced from our usual fishing grounds. This will mean a significant loss of earnings for which no proposal for compensation has been made in the application.	In advance of survey mobilisation, a notice to mariners will be issued by FST in line with accepted maritime safety practice requesting that whilst the geotechnical survey vessel is on location, a temporary 500 m radius safety zone should be maintained around it at each borehole location. The purpose of the safety zone is to ensure the safety of all personnel involved and to minimise the risk of collisions between the survey vessel and other vessels in the area. As such, the 500 m safety zone (with an area of approximately 0.8 km2 around each borehole location) will exclude other sea users, including fisheries, at each borehole location in turn. The safety zone will not be maintained once each borehole is complete. Each borehole is expected to take 1.5-4 days. therefore each temporary safety zone will only be in place for a very short duration. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Licence conditions	The consultee has recommend a number of licence conditions to be attached with any FSL consent	It is for the Department to consider and include licence conditions as they determine necessary.
				Designated Sites	The Applicant has concluded no likely significant effects, we do not accept this assertion and the assessments are not reliable.	The Applicant has confirmed that no intrusive survey work will take place within an SAC or SPA. The assessments provided in the Report to Inform Appropriate Assessment and Natura Impact Statement demonstrates that survey work outwith the designated sites will have no significant effect on the qualifying features of designated sites in the vicinity of the survey work. These assessments were undertaken by independent experts with decades of experience in environmental assessments and the interaction of survey works such as these with designated sites. Therefore the Applicant is confident in the robustness of the assessments provided.
				Lobster juvenilles	The licence area contains a lobster nursery ground. The assessment maeks no reference to the damage that will be caused by the	The environmental assessment included with the FSL application concludes no significant impact due to the relatively small footprint of the survey works in relation to the wider habitat availability. Lobster are not a protected species in this area and are commercially fished on a large scale. Any impact on hidden juvenilles would be would be small, highly localised, temporary and therefore not significant.

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					disturbance to the seabed and hidden juveniles	
				Fishing	Crabs and Crayfish are migratory specices. Concerned an disturbance no matter how minor will create an issue for the species and fishing,	Typically, marine invertebrate species which lack a swim bladder or other air-filled space (such as crustaceans found in Irish waters, e.g. lobster, crab and prawn), are not considered to be sensitive to sound pressure (Marine Scotland, 2018). Sound waves in water are comprised of two parts, particle motion and pressure (Nedelec, 2016). It is thought that marine invertebrates will only detect the particle motion at low frequencies (Mooney et al., 2010 & 2012). In comparison with fish species, it has been noted that the marine invertebrates seem to be less sensitive to particle motion (Marine Scotland, 2018). While the sensitivity of marine invertebrates to particle motion is still in early stages of research (Lewandowski et al., 2016) there is little evidence to suggest underwater sound from geophysical surveys could have significant impacts on crustacean species. Focusing on lobsters and crabs within the marine invertebrate group, it is understood that they detect noise in the form of particle motion through mechano-receptors. These types of receptors include internal statocysts (a fluid filled chamber containing a relatively dense material (statolith)); chordontal organs (ciliated stretch receptors acting as proprioceptors in insects and Crustacea which may also have a role in detecting particle motion); and superficial surface receptors (Marine Scotland, 2018). Decapod crustaceans (such as lobster and crab) have been noted to have physiological resilience to underwater noise due to the lack of gas filled spaces. It has been noted that no lethal effects from underwater noise have been observed for crustacean species including edible crab Cancer pagurus, European lobster Homarus gammarus or the Norway lobster Nephrops norvegicus, although there is evidence sub-lethal physiological and behavioural effects among these species (Edmonds et al, 2016). One proposed geotechnical sampling method is vibratory coring (known as vibro coring). Vibro coring involves an oscillating motor attached to the core barrel which causes localised liquefaction in the sediments along the core barrel surface, which allows the core barrel to penetrate easier into the sediment. Vibro coring is not considered to be a particularly noisy activity, although sound associated with vibro coring would likely be audible above the sound of the vessel that the rig is deployed from (e.g. 180-190 dB (rms) re 1 micropascal @ 1 metre). Any impacts from sound generated during vibro coring will be short-lived due to the nature of how vibro coring rigs operate, i.e. short, intermittent pulses of vibration. This activity will not cause any long term significant environmental effects. In terms of physical vibrations, the short pulses of vibration will transfer through the core barrel into the sediment, but will not have an impact beyond the immediate vicinity of the coring operations as the energy dissipates through the sediment. Studies have looked at the sensitivity of crustaceans to substrate-borne vibrations considered and noted the greatest sensitivity at frequencies below 200 Hz (Marine Scotland, 2018). Other studies have looked at a species-specific example of N. norvegicus (can detect sounds between 20–180 Hz), and Panopeus crabs (can detect sounds between 90 -200Hz). Prawn (Palaemon serratus) is understood to detect sounds (through particle motion) at frequencies < 2000 Hz (Lovell et al. 2005). The potential geophysical surveys undertaken will likely emit noise between 20-200Hz (Edmonds et al, 2016). Whilst this sound source is within the range of sensitivity of important crustacean species (crab, lobster, Nephrops, prawn) it is likely that any impacts would be minor due to the short term and temporary, localised impacts, and the physiological and behavioural resilience to underwater noise of those important crustacean species in the region. Long term impacts would not be expected beyond the duration of the geophysical/geotechnical surveys. Geotechnical drilling does not generate large amplitude sounds. One study reported sound output of 142 – 145 dB re 1 µPa at 1 metre (Erbe & McPherson, 2017) (note that noise from associated vessels could be significantly higher than the sound produced by geotechnical drilling). Decapod crustaceans are considered to be physiologically resilient to noise as they have no gas-filled cavities in their bodies; as a result, the likelihood of impact of geotechnical drilling on either Homarus or Nephrops species (decapod lobsters found in Irish waters) is very low. Erbe & McPherson (2017) recorded drilling sound from a comparable, small geotechnical drilling rig in

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						shallow water. While the sounds recorded were ca. 35 dB above the ambient soundscape, and thus probably audible by marine animals, the sound levels recorded were tens of dB lower than the amplitude of sounds typically considered to be harmful in marine impact assessment, and are likely no louder than typical inshore vessel activity (Parsons et al., 2021). Sounds of this amplitude, across the duration of a campaign of geotechnical investigations lasting several days or a few weeks, may have minor behavioural impacts on crustaceans, as was observed in shore crabs exposed to seabed vibration (20 Hz) in laboratory conditions (Aimon et al. 2021). This species has also been observed to demonstrate reduced foraging and antipredator behaviour in the presence of elevated ambient noise levels (Wale et al. 2013). However, the geotechnical drilling is likely to be completed within a short campaign (ca. 3 days or less at each borehole) and is not believed to cause long-term impacts to these species. Following the completion of the geotechnical investigations at each location it is likely that behaviour of crustaceans found in Irish waters, e.g. lobster, crab and prawn will return to normal, with no long-lasting effects.
				Water quality	Do not accept the conclusion that discharges from coring fluids and cuttings are not likely to cause significant effect on protected species.	Indicative survey locations is a common approach to FSL applications with exact locations confirmed at a later date. All locations will be within the FSL area. Borehole coring may be conducted with seawater only, with no added chemicals. It is possible that coring fluids may be used when required. The most likely fluid in this case would be an organic, biodegradable, high performance water-based mud (HPWBM). Bentonite will also be carried onboard in case it is needed and this may sometimes be mixed with soda ash. All proposed coring fluid products are rated as PLONOR (posing little or no risk to the environment). Only minimal amounts of cuttings will be discharged because 80 - 90% of the core is recovered for analysis. Cuttings are discharged and will settle close to the seabed and are estimated to amount to <0.25 m3 per borehole. Potential seabed impacts from the coring of each borehole are likely to be minor and localised. Given the highly dynamic marine environment in the Foreshore Licence Area, it is expected that any chemicals from coring fluid and suspended particles will be quickly dispersed in the water column to negligible concentrations. Therefore it is highly unlikely that there will be any significant increase is suspended sediment within any designated sites. Given the small size of the boreholes (up to 70 m depth and 100 mm diameter), the very low toxicity of the fluids and the very small quantities of cuttings discharged at the seabed (estimated at <0.25 m3), there will be no likely significant effect on species and habitats from cuttings or coring fluid discharges. Benthic and geotechnical survey sampling will also cause a small amount of sediment to become suspended in the water and subsequently dispersed and deposited on the seabed at a location depending on wave and tidal conditions. However, any deposition of material will be insignificant compared to baseline levels of sediment movement within the Foreshore Licence Area. In addition, equipment required or installed as part of the site investigation activities will not cause any physical obstruction or cause any potential alteration to the natural physical processes (water and sediment movement) of any designated site.
				Habitats	Adverse impact on sensitive habitats has not be properly assessed. Applicant has yet to provide details of exact locations of boreholes.	Indicative survey locations is a common approach to FSL applications with exact locations confirmed at a later date. All locations will be within the FSL area. The area directly affected will be highly localised within the footprint of the equipment deployed. Any sessile epifauna on which equipment is placed may be damaged or lost. In soft sediments, the equipment may penetrate a few centimetres into the sediment which may cause displacement or loss of individual infaunal animals. The geotechnical sampling equipment will typically remain in position for three days or less at each location, after which it will be recovered, and nothing will be left on the seabed. In very soft sediments, small depressions may be left in the seabed. Recovery from the minor disturbance is expected to begin immediately due to natural processes. The biota in the Foreshore Licence Area are naturally habituated to sediment transport processes and are therefore less susceptible to the impacts of temporarily increased sedimentation rates. The following measures will be taken to avoid or reduce any potential impacts on the seabed:

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						• The geotechnical boring and CPT equipment will be accurately positioned on the seabed at each pre-determined location where safe and practicable to do so, reducing any seabed impacts where possible. All deployment and recovery activities will be undertaken as per pre-determined procedures. • A drop-down underwater camera or ROV will be used at each benthic sampling station and the grab will only be deployed if soft sediments are present, thereby avoiding unnecessary damage to potential rocky reef habitats. The photographic equipment itself will not contact the seabed. Given the dynamic nature of the seabed in the Foreshore Licence Area, potential sediment suspension and re-settlement around those activities causing seabed disturbance is only likely to have a temporary effect and to occur in close proximity to the areas directly impacted. Considering the relatively small scale and temporary nature of the seabed impact and the potential for rapid recovery once the short-term activities are competed, there will be no likely significant effect.
				Juvenille Lobster	No details on how the ground will be checked for pre-existing juvenilles hidden in the seabed	It is not anticipated that any pre-checks will be carried out. The environmental assessment included with the FSL application concludes no significant impact due to the relatively small footprint of the survey works in relation to the wider habitat availability. Lobster are not a protected species in this area and are commercially fished on a large scale. Any impact on hidden juvenilles would be would be small, highly localised, temporary and therefore not significant.
				Cumulative	Cumulative impact of both FS007161 and FS007543 and long term effect of removing various stages of the life cycle of shellfish species in the area is not adequately considered.	A cumulative and in-combination assessment has be undertaken and presented in the supporting assessment reports submitted with the FSL application. The assessment concludes no significant impact due to the relatively small footprint of the survey works in relation to the wider habitat availability. Any impact on shellfish would be would be small, highly localised, temporary and therefore not significant.

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				Fishing	Applicant has failed to provide sufficient informatino to enable the Minister to assess the damage to shellfish and habitats where they spawn. Serious concers of the effects noise will have on species in the area.	Section 4.3 of the Report to Inform Appropriate Assessment, a robust justification is provided as to why the fish species which are qualifying features of the nearby designated sites are highly unlikely to experience any disturbance or barrier effect from underwater noise from the survey activities. The area directly affected will be highly localised within the footprint of the equipment deployed. Any sessile epifauna on which equipment is placed may be damaged or lost. In soft sediments, the equipment may penetrate a few centimetres into the sediment which may cause displacement or loss of individual infaunal animals. The geotechnical sampling equipment will remain in position for up to four days at each location, after which it will be recovered, and nothing will be left on the seabed. In very soft sediments, small depressions may be left in the seabed. Recovery from the minor disturbance is expected to begin immediately due to natural processes. The biota in the Foreshore Licence Area are naturally habituated to sediment transport processes and are therefore less susceptible to the impacts of temporarily increased sedimentation rates. The following measures will be taken to avoid or reduce any potential impacts on the seabed: • The geotechnical boring and CPT equipment will be accurately positioned on the seabed at each pre-determined location where safe and practicable to do so, reducing any seabed impacts where possible. All deployment and recovery activities will be undertaken as per pre-determined procedures. • A drop-down underwater camera or ROV will be used at each benthic sampling station and the grab will only be deployed if soft sediments are present, thereby avoiding unnecessary damage to potential rocky reef habitats. The photographic equipment itself will not contact the seabed. Typically, marine invertebrate species which lack a swim bladder or other air-filled space (such as crustaceans found in Irish waters, e.g. lobster, crab and prawn), are not considered to be sensitive to sound pressure (Marine Scotland, 2018). Sound waves in water are comprised of two parts, particle motion and pressure (Nedelec, 2016). It is thought that marine invertebrates will only detect the particle motion at low frequencies (Mooney et al., 2010 & 2012). In comparison with fish species, it has been noted that the marine invertebrates seem to be less sensitive to particle motion (Marine Scotland, 2018). While the sensitivity of marine invertebrates to particle motion is still in early stages of research (Lewandowski et al., 2016) there is little evidence to suggest underwater sound from geophysical surveys could have significant impacts on crustacean species. Focusing on lobsters and crabs within the marine invertebrate group, it is understood that they detect noise in the form of particle motion through mechano-receptors. These types of receptors include internal statocysts (a fluid filled chamber containing a relatively dense material (statolith)); chordontal organs (ciliated stretch receptors acting as proprioceptors in insects and Crustacea which may also have a role in detecting particle motion); and superficial surface receptors (Marine Scotland, 2018). Decapod crustaceans (such as lobster and crab) have been noted to have physiological resilience to underwater noise due to the lack of gas filled spaces. It has been noted that no lethal effects from underwater noise have been observed for crustacean species including edible crab Cancer pagurus, European lobster Homarus gammarus or the Norway lobster Nephrops norvegicus, although there is evidence sub-lethal physiological and behavioural effects among these species (Edmonds et al, 2016). One proposed geotechnical sampling method is vibratory coring (known as vibro coring). Vibro coring involves an oscillating motor attached to the core barrel which causes localised liquefaction in the sediments along the core barrel surface, which allows the core barrel to penetrate easier into the sediment. Vibro coring is not considered to be a particularly noisy activity, although sound associated with vibro coring would likely be audible above the sound of the vessel that the rig is deployed from (e.g. 180-190 dB (rms) re 1 micropascal @ 1 metre). Any impacts from sound generated during vibro coring will be short-lived due to the nature of how vibro coring rigs operate, i.e. short, intermittent pulses of vibration. This activity will not cause any long term significant environmental effects. In terms of physical vibrations, the short pulses of vibration will transfer through the core barrel into the sediment, but will not have an impact beyond the immediate vicinity of the coring operations as the energy dissipates through the sediment. Studies have looked at the sensitivity of crustaceans to substrate-borne vibrations considered and noted the greatest sensitivity at frequencies below 200 Hz (Marine Scotland, 2018). Other studies have looked at a species-specific example of N. norvegicus (can detect sounds between 20–180 Hz), and Panopeus crabs (can detect sounds between 90 -200Hz). Prawn (Palaemon serratus) is understood to detect sounds (through

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						particle motion) at frequencies < 2000 Hz (Lovell et al. 2005). The potential geophysical surveys undertaken will likely emit noise between 20-200Hz (Edmonds et al, 2016). Whilst this sound source is within the range of sensitivity of important crustacean species (crab, lobster, Nephrops, prawn) it is likely that any impacts would be minor due to the short term and temporary, localised impacts, and the physiological and behavioural resilience to underwater noise of those important crustacean species in the region. Long term impacts would not be expected beyond the duration of the geophysical/geotechnical surveys. Geotechnical drilling does not generate large amplitude sounds. One study reported sound output of 142 – 145 dB re 1 µPa at 1 metre (Erbe & McPherson, 2017) (note that noise from associated vessels could be significantly higher than the sound produced by geotechnical drilling). Decapod crustaceans are considered to be physiologically resilient to noise as they have no gas-filled cavities in their bodies; as a result, the likelihood of impact of geotechnical drilling on either Homarus or Nephrops species (decapod lobsters found in Irish waters) is very low. Erbe & McPherson (2017) recorded drilling sound from a comparable, small geotechnical drilling rig in shallow water. While the sounds recorded were ca. 35 dB above the ambient soundscape, and thus probably audible by marine animals, the sound levels recorded were tens of dB lower than the amplitude of sounds typically considered to be harmful in marine impact assessment, and are likely no louder than typical inshore vessel activity (Parsons et al., 2021). Sounds of this amplitude, across the duration of a campaign of geotechnical investigations lasting several days or a few weeks, may have minor behavioural impacts on crustaceans, as was observed in shore crabs exposed to seabed vibration (20 Hz) in laboratory conditions (Aimon et al. 2021). This species has also been observed to demonstrate reduced foraging and antipredator behaviour in the presence of elevated ambient noise levels (Wale et al. 2013). However, the geotechnical drilling is likely to be completed within a short campaign (ca. 3 days or less at each borehole) and is not believed to cause long-term impacts to these species. Following the completion of the geotechnical investigations at each location it is likely that behaviour of crustaceans found in Irish waters, e.g. lobster, crab and prawn will return to normal, with no long-lasting effects.
				HRA	Screening for Appropriate accepts that effects from underwater noise from the project on migratory fish cannot be excluded. No proper assessment has been done.	Following receipt of the DHLGH's AA Screening Report, the Applicant has provided a refreshed Natura Impact Statement.
				Legislative compliance	EIA and AA Screening carried out by the promoter is based on inadequate information. EIA screening fails to recognise that the proposed investigation activity is an integral part of an intended offshore wind farm for which the requirement for EIA cannot be excluded.	The surveys are an activity not a project of a class that requires EIA. A full EIA will be submitted for the windfarm project in due course. The surveys do not form part of an EIA project, rather they are surveys to inform the preparation of the EIAR for the windfarm project. This is a fundamental misundertanding of the EIA Directive and caselaw. For completeness, the Applicant prepared a screening report for the purposes of Directive 2011/92/EC (the Environmental Impact Assessment ("EIA") Directive). This was submitted, together with an Environmental Assessment, as part of the Sceirde Rocks' Foreshore Licence application. It was concluded, in the EIA Screening Report, that the proposed site investigations: • Do not fall under the description of activities included within Annex I or Annex II of the Directive; and • Are of such a nature, scale and location that there are no foreseeable significant effects on the environment arising from the proposed activities. On that basis, the need for an EIA to be carried out in respect of the proposed site investigations can be screened out.

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				Onshore works	The application is made without any consideration of the onshore grid connection and potential impacts on land based European Sites. The promoter is trying to leave route options open is cuasing unnecessary damage to the environment and European sites	There appears to be a misunderstanding in relation to what a licence is being sought for. The FSL application is for marine surveys only and therefore does not require the consideration of land based designations with which there is no pathway for connectivity.
				Legislative compliance	It is submitted the approach taken by the promoter in providing information to the Board in terms of AA departs in a number of significant respects from the overall requirements of the EU Commision	Iascairi Sceirde Fishing Group has not identified or explained how or on what basis it has alleged that the applicant's approach to providing information to the Department (not the Board) departs from the overall requirements of the Commission. The Appropriate Assessment Screening Report and Natura Impact Statement were prepared in compliance with the Commission Guidance document 'Managing Natura 2000 sites, The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC', as well as the Habitats Directive.
				Legislative compliance	European and Irish case law emphasises that any conclusions reached in the context of AA or screening for AA to be carried out by the competent authority must be based on scientific findings. If there are any lacunae or gaps in the information, the threshold of 'beyond reasonable scientific doubt' cannot be achieved.	This submission is noted. We confirm that this is the standard to which the Appropriate Assessment Screening Report and Natura Impact Statement were prepared.

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26	FS007161	Wild Ireland Defence CLG	Secretary	Legislative compliance	Required statutory environmental assessments by competent authorities consistent with the provisions of relevant EU Directives are absent: 1. the Strategic Environmental Assessment (SEA) Directive 2. the Environmental Impact Assessment (EIA) Directive 3. the Birds and Habitats Directives 4. the Maritime Spatial Planning (MSP) Directive	Wild Defence Ireland CLG has not identified or explained what required statutory environmental assessments it alleges are absent, nor has it identified which relevant EU Directives it is referring to. The Applicant considers that it has complied with all of the relevant statutory requirements. For completeness, we have considered the appliability of the relevant EU Directives below: <u>The Habitats and Birds Directives</u> An Appropriate Assessment is being carried out by the Minister under and in compliance with the Habitats Directive. The NIS submitted as part of the Foreshore Licence application includes information to support the Minister undertaking Appropriate Assessment as required under the Habitats Regulations, to ensure compliance with the Habitats Directive. The report provides the necessary information to the competent authority to enable the Minister to determine whether the proposed site investigation activities at Sceirde Rocks Offshore Wind Farm, individually or in combination with other plan or projects, will result in any adverse effects on the integrity of the relevant European Sites, having regard to their conservation objectives, screened in during the Stage 1 Appropriate Assessment Screening (see 'Report to Inform Appropriate Assessment Screening' (Document Ref L100725-S00-A-REPT-005) also submitted as part of the licence application and Screening Determination for Appropriate Assessment FS007543 and Screening Determination for Appropriate Assessment FS007161). An Annex IV Species Report has also been submitted. <u>Environmental Impact Assessment</u> As outlined above, the applicant prepared a screening report for the purposes of Directive 2011/92/EC (the Environmental Impact Assessment ("EIA") Directive). This was submitted, together with an Environmental Assessment, as part of the Sceirde Rocks' Foreshore Licence application. It was concluded, in the EIA Screening Report, that the proposed site investigations: • Do not fall under the description of activities included within Annex I or Annex II of the Directive; and • Are of such a nature, scale and location that there are no foreseeable significant effects on the environment arising from the proposed activities. <u>Strategic Environmental Asssessment Directive</u> The Strategic Environmental Assessment Directive is not engaged as this is an activity, not a plan or programme. <u>The Maritime Spatial Planning Directive</u> The National Marine Planning Framework is Ireland's first comprehensive marine spatial planning framework, which is required under the Maritime Spatial Planning (MSP) Directive 2014/89/EU. The Marine Spatial Planning Directive is not engaged here as it is relevant only to the proposed offshore windfarm and not the site investiation works the subject of the within application for foreshore licences for site investigations.
					Case law	Wild Defence Ireland CLG has referenced a number of cases, without providing any context or detail as to the basis upon which it is seeking to rely on these cases or setting out why they consider them to be of relevance. We have endeavoured to respond below to each of these cases.

Submission	FSL Application	Consultee Organisation	Consultee Name	Topic	Overview of Comments	Applicant Response
					C-127/02 (Waddensee) C-323/17 (People Over Wind, Peter Sweetman and Coillte) C-418/04 (Commission v Ireland) C-258/11 (Sweetman – Galway bypass) C-98/03 (Commission v Germany)	C-323/17 (People Over Wind, Peter Sweetman and Coillte) This decision of the CJEU relates to the application of mitigation measures at AA Screening Stage. As a Natura Impact Statement has been submitted, and the Minister has confirmed that a Stage 2 Appropriate Assessment is required, this case is not relevant. C-127/02 (Waddenzee) and C-157/96 (The Queen v Ministry of Agriculture, Fisheries and Food and Commissioners of Customs & Excise, ex parte National Farmers' Union and Others) C-418/04 (Commission v Ireland) These decisions of the CJEU relate to the application of the precautionary principle, which has been applied here as an NIS was prepared and a Stage 2 Appropriate Assessment will be carried out. C-258/11 (Sweetman – Galway bypass) This decision relates to the standard to be applied at AA Screening stage, to determine whether a site / species should be carried forward to Stage 2 Appropriate Assessment. C-98/03 (Commission v Germany) This decision of the CJEU confirmed that practice indicates that a screening decision should be recorded in writing and be available to the public. This has been done by the Minister.
					C-124/16 (Ianos Tranca)	C-124/16 (Ianos Tranca) This case appears to relate to criminal proceedings and its alleged relevance is entirely unclear.

Submission	FSL Application	Consultee Organisation	Consultee Name	Topic	Overview of Comments	Applicant Response
					C-441/17 - Commission v Poland (Białowieża Forest) Kelly v. An Bord Pleanála [2014] IEHC 400 C-243/15 (Lesoochranárske zoskupenie VLK C-461/17 (Holohan and others)	C-441/17 - Commission v Poland (Białowieża Forest) Relates to the obligation to carry out an Appropriate Assessment where a plan or project is not connected to the conservation objectives of a site and is likely to have a significant effect upon the relevant European site. An AA will be carried out by the Minister. Kelly v. An Bord Pleanála [2014] IEHC 400 This decision relates to how the Minister must carry out his Appropriate Assessment, and confirms that the Minister: (i) Must identify, in the light of the best scientific knowledge in the field, all aspects of the development project which can, by itself or in combination with other plans or projects, affect the European site in the light of its conservation objectives. This clearly requires both examination and analysis. (ii) Must contain complete, precise and definitive findings and conclusions and may not have lacunae or gaps. The requirement for precise and definitive findings and conclusions appears to require analysis, evaluation and decisions. Further, the reference to findings and conclusions in a scientific context requires both findings following analysis and conclusions following an evaluation each in the light of the best scientific knowledge in the field. (iii) May only include a determination that the proposed development will not adversely affect the integrity of any relevant European site where upon the basis of complete, precise and definitive findings and conclusions made the Board decides that no reasonable scientific doubt remains as to the absence of the identified potential effects. C-243/15 (Lesoochranárske zoskupenie VLK) ("Brown Bear II") This relates to public participation and in this case the public have had an opportunity to make submissions in relation to the Appropriate Assessment process. C-461/17 (Holohan and others) Relates to the content of the NIS and confirms that all the habitat and species types for which a site is protected, must be assessed and considered together with implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are likely to affect the conservation objectives of the site. This has been done here and the Report to Inform Appropriate Assessment and NIS considers all designated sites with potential connectivity to the foreshore licence area and survey activities.
					C-258/11 (Sweetman – Galway bypass) C-164/17 (Grace and Sweetman) C-387/15 (C-387/15 - Orleans and Others), C-388/15 (Malcorps and others),	C-258/11 (Sweetman – Galway bypass), C-164/17 (Grace and Sweetman), C-387/15 (C-387/15 - Orleans and Others), C-388/15 (Malcorps and others) All four decisions of the CJEU related to a loss of habitat within a designated European site. The proposed site investigations to be carried out under the proposed Foreshore Licence will not result in a loss of habitat. within a designated site as. in particular, the Applicant has committed that no intrusive surveys will be undertaken within and SAC or SPA.
27	FS007161	n/a	Anonymous	Project impacts	Erecting a wind farm wil have detrimental effects on the fishing industry through impacts to species, loss of access and extra fuel cost/vessel wear.	The impacts referred to by the consultee are not of relevance to the survey works being considered as part of the FSL application but instead refer to the construction the offshore wind farm (which is not part of this FSL). A future EIA Report that will consider the whole Project development and all potential construction/operation impacts and will be submitted with a future development consent application.

Submission	FSL Application	Consultee Organisation	Consultee Name	Topic	Overview of Comments	Applicant Response
				Costs and Project impacts	Offshore wind farms cost more than erecting onshore wind farms. Offshore equipment requires more maintenance. We are not confident the project is financially sustainable. The scenic and noise pollition caused by the project will stop residents and visitors coming to the area.	The impacts referred to by the consultee are not of relevance to the survey works being considered as part of the FSL application but instead refer to the construction the offshore wind farm (which is not part of this FSL). A future EIA Report that will consider the whole Project development and all potential construction/operation impacts and will be submitted with a future development consent application.
28	FS007161	n/a	Anonymous	Project impacts	Erecting a wind farm wil have detrimental effects on the fishing industry through impacts to species, loss of access and extra fuel cost/vessel wear.	The impacts referred to by the consultee are not of relevance to the survey works being considered as part of the FSL application but instead refer to the construction the offshore wind farm (which is not part of this FSL). A future EIA Report that will consider the whole Project development and all potential construction/operation impacts and will be submitted with a future development consent application.
				Costs and Project impacts	Offshore wind farms cost more than erecting onshore wind farms. Offshore equipment requires more maintenance. We are not confident the project is financially sustainable. The scenic and noise pollition caused by the project will stop residents and visitors coming to the area.	The impacts referred to by the consultee are not of relevance to the survey works being considered as part of the FSL application but instead refer to the construction the offshore wind farm (which is not part of this FSL). A future EIA Report that will consider the whole Project development and all potential construction/operation impacts and will be submitted with a future development consent application.
29	FS007161	N/A	Anonymous	Various	Reasons why the site area has been chosen	As presented in the application supporting reports, the FSL area covers the Sceirde Rocks Relevant Project area plus a wider area in order to fully investigate and assess the surrounding area.
					Inconsistent maps in pubilc notices	The correct maps showing the FSL Area are depicted on FS007161 public notice and FS007543 public notice
					No Irish version of AA Screening maps or other documents	FST (the Applicant) provided Irish translations for selected maps and documents as instructed by the Department
					No public consultation on AA Screening	Public consultation is being carried out by the Minister in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) before he makes his stage 2 AA determination.
					No EIA was available	Our "Environmental Assessment and EIA Screening Report" submitted with the FSL application clearly demonstrates that the survey activities being requested as part of the FSL application do not fall under the EIA Directive requirements for a formal EIA to be completed
					The application was not signed.	The application was signed but a redacted version was made available for consultation
					There is a lack of clarity regarding the reasons for the marine notices, Marine Notice 30 of 2022 agus Marine Notice 40 of 2022, which alerted the public that a survey would be carried out in 2022. Are these notices connected in any	The surveys that were undertaken in 2022 were undertaken in full compliance with the legislation at that time and did not require a FSL.

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					way with this application for a Foreshore Licence? If a survey was carried out, where was the public notice for community participation and where would the public access the foreshore licence that should have accompanied it	
30	FS007161	N/A	Anonymous	Fishing	Lack of consultation	FST provided all requried hard copies in the required locations for consultation as instructed and approved by the Department with all documents also available online. Information about the consultation was included in very large notices in two local and one national newspaper on two separate occasions. In advance of surveys being undertaken, the Applicant will consult with fishermen, their representative Producer Organisations, relevant Inshore Fisheries Forums and charter vessel operators with the objective of ensuring that survey activities can be completed safely and without damange to fishing gear, survey equipment or vessels. Commencement of survey activities is subject to Foreshore Licence consent and the availability of suitable survey contractor. The Applicant will consult with local fishermen to develop and implement where possible a survey programme which minimises the risk of any potential losses through effective planning and coordination of the survey activities.
				Project impacts	Concern over long term impacts of displacement, wind farm construction and cable laying	The construction and operation of a wind farm and export cable route are not the subject of this FSL application. The future EIA Report that will consider the whole Project development and all potential construction/operation impacts and will be submitted with a future development consent application.
					I'm concerned by both this survey and the cable being laid because significant changes interfere with the biological habitat of fish, lobster, crab and the common spiny lobster. We must stand our ground because this proposal will have serious effects and a negative socio-economic impact on our fishing town,	The information provided in our Environmental Assessment and EIA Screening Report demostrates that any disruption from survey activitiy will be short term, temporary and not significant on both fishing activity and fish ecology. Impacts from the installation of cables are not relevant to the surveys being requested in this FSL application and are therefore not considered.
				Cables	EMF impacts from power cables on fish and shellfish. Impacts from laying cables and rock armour on seabed.	No installation of cables will take place as part of the surveys being proposed in the FSL application and therefore these impacts (including EMF) are not considered at this stage.
				Fishing	No reference to fishing, ignoring fishermen in the assessment.	The information provided in our Environmental Assessment and EIA Screening Report demostrates that any disruption from survey activitiy will be short term, temporary and not significant on both fishing activity and fish ecology. Impacts from the presence of project turbines are not relevant to the surveys being requested in this FSL application and are therefore not considered.

Submission	FSL Application	Consultee Organisation	Consultee Name	Topic	Overview of Comments	Applicant Response
				Marine Mammals	We know that the humpback whale also travels through the area proposed for the survey licence. The islands and the sea surrounding them are rich in biodiversity and we do not want to see that biodiversity or any marine mammal harmed, or for any whales or dolphins to become beached	Humpback whales are known to prefer deeper waters and are therefore unlikely to be encounterd across the foreshore licence area. The Report to Inform Appropriate Assessment and Natura Impact Statement submitted with the FSL application provide detail and evidence of why there will be no significant effect from the survey activities on marine mammal protected species (including those listed in the consultee response) and otters. In addition the surveys will be undertaken in strict adherence to the NWPS 2014 guidance ""Guidance to manage risk to marine mammals from man-made sound sources" which provides suitable mitigation to remove any impact on all marine mammal species including bottlenose dolphin, common seal, grey seal, humpback whale and otters. To support of development consent application for the Sceirde Rocks OWF project an EIA Report and Natura Impact Statement will be produced that considers all potential construction , operation and decommissioning impacts from the project itself.
				Benthic	Concern over benthic impacts and SACs. Whilst the applicant has stated no impact on an SASC, this does not account for tides/winds	Indicative survey locations is a common approach to FSL applications with exact locations confirmed at a later date. All locations will be within the FSL area. Borehole coring may be conducted with seawater only, with no added chemicals. It is possible that coring fluids may be used when required. The most likely fluid in this case would be an organic, biodegradable, high performance water-based mud (HPWBM). Bentonite will also be carried onboard in case it is needed and this may sometimes be mixed with soda ash. All proposed coring fluid products are rated as PLONOR (posing little or no risk to the environment). Only minimal amounts of cuttings will be discharged because 80 - 90% of the core is recovered for analysis. Cuttings are discharged and will settle close to the seabed and are estimated to amount to <0.25 m3 per borehole. Potential seabed impacts from the coring of each borehole are likely to be minor and localised. Given the highly dynamic marine environment in the Foreshore Licence Area, it is expected that any chemicals from coring fluid and suspended particles will be quickly dispersed in the water column to negligible concentrations. Therefore it is highly unlikely that there will be any significant increase is suspended sediment within any designated sites. Given the small size of the boreholes (up to 70 m depth and 100 mm diameter), the very low toxicity of the fluids and the very small quantities of cuttings discharged at the seabed (estimated at <0.25 m3), there will be no likely significant effect on species and habitats from cuttings or coring fluid discharges. Benthic and geotechnical survey sampling will also cause a small amount of sediment to become suspended in the water and subsequently dispersed and deposited on the seabed at a location depending on wave and tidal conditions. However, any deposition of material will be insignificant compared to baseline levels of sediment movement within the Foreshore Licence Area. In addition, equipment required or installed as part of the site investigation activities will not cause any physical obstruction or cause any potential alteration to the natural physical processes (water and sediment movement) of any designated site.
31	FS007161	Irish Whale and Dolphin Group	MMO Officer	Cumulative	MMO reports from 2022 surveys should form part of the submission of information relevant to this licence under the cumulative assessment	These surveys had not been undertaken at the time of writing the assessments in support of the FSL application

Submission	FSL Application	Consultee Organisation	Consultee Name	Topic	Overview of Comments	Applicant Response
				Data	The Aarhus Convention guarantees the public right to information on the state of the environment and as such the MMO reports for previous surveys carried out prior to the licence being issued should be included in this submission for evaluation of compliance and environmental impact and is entirely relevant to this application which requests the right to geophysical surveying over a five year period and it is necessary to know if the geophysical surveys are already completed (prior to the licence being issued) or if further surveys are required and over what duration?	This is an application for foreshore licences for site investigations under the Foreshore Acts. The Applicant has complied with the Foreshore Acts and all relevant environmental legislation and the application is being made subject to public consultation. The applications contain sufficient information in order to enable the Minister to undertake the relevant assessments required under this legislation.
				Data	It is noted the Marine Advisors Screening Stage Reports (both dated November 2022) appear unaware of earlier completed geophysical surveys and have not checked compliance to date but merely stated the work will be conducted in compliance with DAHG (2014) guidance. Such reports that exist to confirm compliance therefore do not appear to have been checked. Why not? Further in the Screening for Appropriate Assessment Report the Marine Advisor appears unaware of already completed geophysical works which are proposed in these applications and this calls into question the knowledge of the regulator and ability to regulate the offshore environment.	This is an application for foreshore licences for site investigations under the Foreshore Acts. The Applicant has complied with the Foreshore Acts and all relevant environmental legislation and the application is being made subject to public consultation. The applications contain sufficient information in order to enable the Minister to undertake the relevant assessments required under this legislation.