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RWE Renewables Ireland Ltd

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FS007188 RWE\_Response to Public Consultation

Dear Sir,

Thank you for providing the submissions from the public in response to the consultation on Foreshore Licence Application, FS007188.

The licence application is solely for the purposes of the completion of the proposed site investigations and environmental surveys. The application is not for permission to construct or operate a wind farm. The grant of a foreshore licence which gives permission to undertake surveys and site investigations to inform the design of the wind farm or to collect data for monitoring purposes is made on terms which are expressly without prejudice to the subsequent mandatory development consent application to be made by the project to An Bord Pleanála under the Maritime Area Planning Act, 2021 and its associated consent framework. The site investigation works carried out at a preliminary stage of a project design are not inextricably linked to the construction and operation of the project itself, as the former can occur without the latter, therefore the development and operation of a wind farm is not a probable or likely consequence of granting a foreshore licence application for site investigations. Some of the issues raised in the public submissions are therefore outside of the scope of the licence application.

Please find overleaf our response to the matters raised which are pertinent to the licence application. The main observations made by each correspondent have been reproduced in the attachment, in bold, italicised text, to indicate the specific points the response relates to. Please refer to the Public Consultation submissions for the full text of their responses.

Yours sincerely,

[REDACTED]  
Offshore Consents Manager

Encl: Applicant's response to public consultation.

## Applicant's response to submission 1

In the drive to cut back on carbon, we cannot forget how important it is to protect our natural environment.

This project has the potential to decimate the maritime environment off the coast of Dublin and Wicklow.

1. A eyesore on the marine landscape, visible for miles.
2. Interfere with marine mammals including dolphins and seals.
3. Kill thousands of seabirds, remember the success at Rockabill etc...
4. Cause foreshore damage.
5. A menace to shipping.

I would encourage you to do all you can to make sure the application is not successful.

This application is solely for ecological monitoring and site investigation works, the latter required to inform the engineering and design of the offshore wind farm, the cable route(s) to shore and associated infrastructure. The proposed windfarm will be the subject of a development consent process under the Maritime Area Planning Act, 2021 and the associated consent framework which will be subject to assessment under inter alia the Environmental Impact Assessment Directive, the Habitats Directive, the Birds Directive, and the Wildlife Acts, and will be subject to public consultation as part of that process. An Environmental Impact Assessment Report will be submitted with the application which will include an assessment of the potential impact the wind farm may have on a range of receptors including seascape, marine mammals, birds, navigation and the physical environment.

## Applicant's response to submission 2

I am a commercial fisherman that is very concerned about this application as it will affect my ability to run business.

I have a 12m boat that fish's for whelk and crab and lobster in this area.

RWE note the correspondent's concern regarding potential commercial effects of the proposed surveys on their business. RWE are committed to continuing engagement with fishers regarding the planning and delivery of the survey works included within the Foreshore Licence application. Where temporary removal of static fishing gear is necessary to allow safe access of survey vessels and operations, agreements will be sought with relevant local fishers to ensure that the necessary actions can be taken to minimise disruption.

A Fisheries Liaison Officer has been in place for the project since May 2019 and will continue to be available to the fishing community to ensure effective communications during the planning and execution of the proposed surveys.

## Applicant's response to submission 3 from the Irish Whale and Dolphin Group

1. IWDG agree that the main marine mammal community has been described and is dominated by harbour porpoise and grey and common seals. However bottlenose dolphins, which are known to be part of the Irish coastal population do regularly pass through the site and given the relatively small and wide-ranging nature of individuals in this population should be given greater consideration in the EIA and AA. The statement "While sightings rates and resulting density estimates were high in November 2019 and September 2020, overall there wasn't any evidence of a seasonal pattern in the sightings" could have been addressed using static acoustic monitoring which provides high quality temporal data. In order to ensure site surveys carried out to inform these assessments were appropriate it would have been useful if the applicant had provided the marine mammal survey report as an Appendix.

RWE note IWDG's comments on the presence of bottlenose dolphins within the area. The sightings rates from the ObSERVE Surveys indicate that the presence of bottlenose dolphins was primarily to the West and South of Ireland, rather than on the East coast where the proposed site investigations and monitoring surveys which are the subject matter of this foreshore licence application will be carried out. Given that the results of 13 site specific surveys undertaken to inform the environmental assessment and design of the Dublin Array project identified a total of four groups of bottlenose dolphins, the potential risk to the species from the proposed survey activities is considered insignificant, and the screening conclusion presented in the Report to Inform Appropriate Assessment Screening, Annex E of the application documents, is proportional to that risk in relation to the extremely small impact ranges expected from this survey. SACs with bottlenose dolphins listed as qualifying features are located at Cardigan Bay SAC and Llyn Peninsula and the Sarnau SAC on the Welsh coast, over 100 km from the geophysical survey boundary.

Further, separate consideration of bottlenose dolphins and other relevant marine mammals has been given within Annex F, Section 5, Relevant Assessment for Annex IV species. This assessment is conducted in accordance with Article 12 of the Habitats Directive. RWE have committed to the implementation of the mitigation measures set out in the 'Guidance to Manage the Risk to Marine Mammals from Man-Made Sound Sources in Irish Waters' (DAHG, 2014) which is considered sufficient to mitigate any impacts on all marine mammal species which are within the area. The consideration of mitigation measures is not precluded as part of an assessment under Article 12 of the Habitats Directive.

The use of Static Acoustic Monitoring (SAM) was considered during the design of site specific surveys to inform understanding of the baseline environment. However, whilst this method can provide continuous fine temporal and spatial scale resolution data, it is most suitable for harbour porpoise and dolphin species, and not suitable for species such as baleen whales or seal species which do not vocalise reliably. In addition, it can be difficult to differentiate between dolphin species with SAM, and since it was known from previous studies that multiple dolphin species are present in Irish waters, it would not be sufficient to detect “dolphins” without being able to classify to species level, especially considering that the level of protection afforded to different dolphin species differs (e.g. SACs for bottlenose dolphins). The IWDG have conducted several static SAM deployments in the Dublin area (e.g. Berrow et al. 2008, Berrow et al. 2011, Berrow and O'Brien 2013, O'Brien and Berrow 2016, Meade et al. 2017) and have recorded high levels of porpoise detections (detected on almost every day), therefore there is considered to be sufficient SAM data that exists to confirm the presence of porpoise in the area year round.

RWE is seeking permission under this foreshore licence application to deploy SAM as part of a pre and post wind farm construction monitoring programme.

2. Page 30 Table 2: This table refers to a UHR (Ultra High Resolution) seismic sparker with a peak frequency of 4 kHz. A selection of specific Sub-bottom profiling equipment is listed in Table 1 (appendix i) here below and all boomers, sparkers and pingers have target frequencies that start at 0.5 To 2 kHz. The frequencies described in Table 2 of the document are the highest target frequencies and represent the smallest potential extension of the sound impact zones therefore. Additionally the multi-beam system chosen has a frequency of 190 to 240 kHz. Many multi-beam systems operate below this level and down to 12 kHz

Given the association of a mass stranding with a 12 kHz system multi-beam use in Mozambique in 2008 (Southall et al. 2013) it should be clear that equipment with frequencies lower than that considered in this assessment or with source levels higher than those considered cannot be used in survey work. Additionally equipment not listed, such as chirpers, should not be used.

Additionally if a USBL and HiPap system are to be used the sound characteristics should be included in the assessment. The DAHG (2014) guidelines on sound source usage requires a report of all sources to be submitted by the operator within 30 days of survey completion, this is not normally checked and required by the regulator and should now be enforced in order that the regulator can ascertain whether source use falls within the licence requirements and has been properly assessed.

RWE is aware of the evidence presented in Southall et al. 2013 of a 12 kHz multibeam system being associated with a mass stranding of melon headed whales. The report concludes that the use of the 12kHz MBES appears to be the most likely initial behavioural trigger of the stranding event, but that a variety of secondary factors contributed to, or ultimately caused, mortalities. The report also notes that the MBES had a relatively low frequency 12kHz, very high power output and complex configuration of many (100+) overlapping beams comprising a wide swathe. The type of MBES which will be used at Dublin Array operate at a higher frequency range (190 -420 kHz). The lower frequency equipment proposed to be used at Dublin Array, i.e. sub bottom profilers, are of a lower frequency 2 -5 kHz which is outside the generalised hearing range of low frequency cetaceans, 7kHz to 35kHz (Southall et al, 2019). Conclusions drawn based on frequencies of 12 kHz are not therefore relevant to the surveys that are the subject of the foreshore licence application. The assessments presented are specific to the types of equipment which may be used as set out in Table 2 of Annex E of the application documents and conclude that there is negligible to no risk of injury to marine mammals from the use of the specified geophysical survey equipment

Marine Mammal Observer Reports including details of the survey equipment used will be submitted to NPWS as required by DAHG 2014.

3. Page 44. Table 5. Source levels do not agree with data obtained from CEDA (Central Dredging Association) position paper (<https://www.iadc-dredging.com/wp-content/uploads/2017/02/article-ceda-position-paper-underwater-sound-in-relation-to-dredging-125-4.pdf>) and recreated below in Table 2 (appendix i) with references. This would seem more conservative in its assessment of noise, with drilling noise assessed as much lower than assessed for Dublin array but engine noise significantly higher. Indeed the engine noise given in the assessment indicates a slow speed of vessels at all times or electric engine usage. Unless sonic drilling is to be used drilling is not considered of significant impact in itself but would depend on other equipment that may be required for the activity.

9. Page 49. 6.2.22 This contradicts vessel noise levels in Table 5 of the document.

RWE acknowledge the inconsistency identified by IWDG for the stated sound pressure level (SPL) for typical vessel noise between Table 5 and paragraph 6.2.22 of Annex E. We confirm that the assessments have been carried out based on the more conservative value in 6.2.22 (160-175 dB re1µPaPeak @1m) rather than the values presented in Table 5 (142 – 145 dB re1µPaPeak @1m).

The SPL for both drilling and vessel noise provided in the Central Dredging Association (CEDA) position papers do differ from those presented in Annex E to the application documents, with drilling noise provided by CEDA being lower and vessel noise higher (150dB-180dB 1µPa rms) than those quoted in Annex E of the application documents. However applying the different source levels at 1m quoted in CEDA would not result in a different outcomes for the assessments presented within Annex E.

The noise associated with large shipping vessels is widely considered unlikely to cause physical trauma but could make preferred habitats less attractive as a result of disturbance (habitat displacement, area avoidance) (Erbe et al., 2019). A study by Beck et al (2013) notes that marine mammals frequenting the Dublin Port shipping channel will be well accustomed to shipping noise. Ambient underwater noise in Dublin Bay has been estimated at around 113 db by Beck et al. (2013) and by McKeown (2014). Given the existing vessel levels within the area the proposed site investigation will not result in a significant increase in vessel traffic and therefore no significant increase in vessel noise. The vessel noise associated with the proposed site investigation and monitoring activities will be short term, temporary and intermittent and no significant disturbance or displacement effects are expected for any of the marine mammal species identified within the baseline, no amendments are required to the conclusions of this Licence application.

4. Page 47 – 6.2.17 does not consider CPT (Cone Penetration Tests) on the drilling activity.

As stated in paragraph 6.2.5, of Annex E to the application documents, CPTs are considered to be less impacting than drilling (due to the lower sound levels produced), the effects of these are therefore captured within the impacts of the associated drilling and not assessed separately.

5. Page 48 – 6.2.18. Sub-bottom profilers can include airguns and are often omnidirectional at worst and bottom orientated at best. Use of unpublished material should be avoided but Guan (2020) does state “Most, if not all, sparkers and boomers are omnidirectional sources, thus should use 180o as the beamwidth” in the paper quoted. However sound on a rocky substrate will be reflected in all directions. The “wealth of data” referred to should reference properly published material preferably from more than one source.

While the statement raised by IWDG is valid for high powered, airgun surveys the proposed site investigations will not include the use of air guns. The assessments presented are specific to the types of equipment which are intended to be used during the site investigation as set out in Table 2 of Annex E.

6. 6.2.19 Parametric refers to separation of signal into different signal frequencies and non-parametric primary frequencies refer to a single frequency output. However such signals are relevant to pingers only and then only some, not all, certainly the observations here are not applicable to all SBPs (Sub-Bottom Profilers). The CSA (2020) assessment quoted is very good but refers to a specific range of equipment and no such specific equipment has been considered here.

The equipment assessed for use during the proposed surveys at Dublin Array is of the same type and characteristics as that listed and assessed within the CSA (2020). The latter includes "medium sub bottom profilers", such as sparkers and boomers in addition to parametric pinger systems. The maximum estimated distance of 141m from a geophysical source to the Level B threshold (SPLrms of 160 dB re 1  $\mu$ Pa) in CSA (2020) applies to a sparker system, with the threshold distances for boomer and parametric sources being considerably less. Annex E, The Report to Inform Appropriate Assessment Screening has considered the most precautionary value presented in CSA (2020) for the type of equipment which is proposed to be used at Dublin Array and concludes that marine mammals will be at negligible to no risk of disturbance or injury.

7. 6.2.20 refers to the SBPs and sound source being "primarily being at 100 kHz". This is incorrect see Tables 1 and 2 (appendix i) here. The difference between SPL (peak) and SPL rms can be seen described for a variety of equipment Crocker and Frantantonio (2016), and in fact Guan(2020) which is quoted recommends using source levels from this technical report.

As stated above and set out in paragraphs 6.2.20 and 6.2.21 the screening assessment has been undertaken using the most precautionary values presented in CSA (2020) for the type of equipment which is proposed to be used at Dublin Array. The proposed surveys for which consent is sought do not include the use of airguns, which is the only type of SBP equipment for which the source levels presented in Crocker and Frantantonio (2016) exceed the source level used to inform Annex E.

8. 6.2.21 There is no indication of type of equipment to be used so discussing source levels, attenuation and frequency should assume the worst case scenario or state for equipment which might be used.

The assessments presented are specific to the types of equipment which are intended to be used during the site investigation as set out in Table 2 of Annex E.

10. 6.2.23 I am not sure exactly which references are referred to but it seems the suggestion is that seals that are hauled out cannot be disturbed in the licence area as there is nowhere to haul out. As the licence area continues to the shoreline this is not strictly true. Though the impact is probably insignificant the applicant should identify any known or potential haul out sites to ensure this is not an issue.

The references in question relate to the ones in the preceding paragraph, 6.2.22 i.e. (Palka and Hammond, 2001; Henry and Hammill, 2001; Johnson and Acevedo-Gutiérrez, 2007).

A number of seal haul outs are located in the Dublin Bay area, including the sandbanks at North Bull Island, Dalkey Island, Irelands Eye and Lambay Island. Of these sites the proposed Foreshore Licence area extends around the shoreline of Dalkey Island only and the activities which are proposed in that location are limited to ecological grab sampling only. The draft of the survey vessels is such that they will remain away from land and the haul out site at Dalkey Island. The proposed survey area will not overlap with any sites themselves.

11. 6.2.26 Given the reference CSA (2020) is used which assess a range of equipment that might be used and it identifies limited PTS and slightly larger possible TTS zones, it does not seem exactly correct to conclude "sound levels are expected to not exceed those which may result in injury to any marine mammal".

CSA (2000) concludes that "Level A exposures are not expected to occur for any of the hearing groups during operation of geophysical impulsive sources", therefore indicating that there will be no significant impact from the works on any of the appropriate hearing groups. Additionally, the sentence in question refers to the "received" sound levels for which the animals will be exposed to following the known avoidance behaviours based on the types of vessels associated with the survey works. Therefore the conclusion drawn is considered to be valid.

12. Page 50. 6.2.27 While the assumption that baleen whales will not be present this is really dependent on the time of year and without acoustic or boat survey data from the area and surrounding waters it is impossible to determine likelihood of presence and/or disturbance. Some initial survey data has been mentioned with the presence of minke whales in the area acknowledged, but no data is presented that can be found here. So it would appear likely that minkes could be encountered during surveys.

Minke whales are considered within the Article 12 Assessment for Relevant Annex IV species included in Annex F of the application documents.

Furthermore the statement "With regard to pinnipeds (all of which are sensitive to low frequency range), although a level of localised disturbance may result this is expected to be minimal, with all disturbance effects from the proposed equipment being within that expected from vessels and consequently highly localized". This appears to state that seals will only be disturbed by the survey vessel noise and not the survey activity itself. This does not seem credible given the low frequency nature of many sound sources and known source levels above that of vessel noise.

Annex E of the application documents concludes that the sound levels from the proposed works may result in some degree of localised disturbance to pinnipeds in water (masking or behavioural impacts, for example). Noise associated with the proposed works is not expected to result in injury. Any disturbance would be expected to be small-scale and short-term, with no effects lasting beyond the period of the works. The equipment that results in source levels higher than that from vessel noise are primarily high frequency sound sources from geophysical survey equipment. Sound from the acoustic geophysical equipment which is proposed to be used is highly directional and will therefore have a much more rapid attenuation of noise (e.g. as presented in CSA, 2020) compared to the omnidirectional sound sources such as vessel noise. The statement quoted by IWDG, as reproduced above, is stating that the extent of the area in which disturbance to pinnipeds in water may occur as a result of the survey activities is within the area of disturbance expected from vessels and consequently highly localized.



RWE have committed to the implement the mitigation measures set out in the 'Guidance to Manage the Risk to Marine Mammals from Man-Made Sound Sources in Irish Waters' (DAHG, 2014) which is considered appropriate to mitigate any impacts on all marine mammal species which are within the area.

13. 6.2.28 "However, the proposed activities do not include..... high frequency energy release as part of seismic survey" but apparently high frequency energy is the main focus of the survey. So this statement is incorrect.

The phrase "high frequency energy release" refers to the use of seismic air gun surveys which are not proposed as part of the survey activities which are the subject matter of the application.

14. Page 51. Table 8. SSS and bathymetric survey activity (presumably Multi-beam systems) are operating outside the frequency range of marine mammals. Many such systems work within the frequency range of marine mammals (up to 200kHz). This is a general statement without evidence of any investigation. Shallow water systems generally user higher frequencies but have side lobes of energy outside target frequencies and this is well documented. It would be better to include consideration for systems where operating frequencies are audible to marine mammals rather than later finding the system chosen and used was not properly assessed, unless it is sure that no lower frequency systems will be used, but no examples are given, therefore it appears this may be unknown.

The assessment undertaken has been completed particular to the range of equipment which is proposed to be used and is set out in Table 2 of Annex E of the application documents.

15. Given that there have been a total of nine foreshore applications including this one submitted since 2019 that involve work within the Rockabill to Dalkey Island SAC (Site Code 003000) for the protection of harbor porpoise and the only cetacean SAC in the Irish Republic section of the Irish Sea, some consideration should have been given to works which affect the SAC and along with survey works present a danger of cumulative impacts. Indeed the works applied for are part of increased human development, dumping and survey work activity within the SAC. Given the supposed protected nature of the site and the fact that noise is not confined to survey areas the cumulative impact in the next 5 years may be considerable and a greater effort will be required to reduce impacts directly on the SAC. This should result in moving activity outside the SAC where practical as well as temporal mitigation, adoption of more stringent mitigation protocols and strict monitoring.

The in-combination effects screening is presented within section 7.6 of Annex E and the full assessments are presented within the Applicant's NIS (Annex F).

16. Annex F: Applicant's Natura Impact Statement Page 75. Requires standard NPWS mitigation practice, with additional prewatch period of 45 minutes and delay, required May to September for all marine mammals due to the presence of harbour porpoises calves. Records of equipment use and soft starts applied should be recorded and submitted with the MMO report or as a separate Operators report, as required under the NPWS guidelines. Full reporting as required by the NPWS guidelines must be required by the regulator in order for operations to be compliant and for compliance to be properly assessed. The delay of operations or prewatch of 45 minutes is of little significance in mitigating noise impacts given that where harbour porpoises are found, survey activity needs to simply move farther than 1 km away, start sound sources and precede to operate through areas of harbour porpoise activity. Given that survey activity will operate in and through one of the few SAC's (Special Areas of Conservation) in the country for harbour porpoise a higher level of protection which incorporates the strictest protection for Annex II and IV species in the Habitats Directive and under the Convention of Migratory Species (CMS) should be established under the guidance extracts included in appendix I here.

The running of survey activity through areas of recognised harbour porpoise presence with or without an extra 15 minute delay period does nothing to protect these animals from "deliberate disturbance" prohibited under article 12.

The assessment at this stage may be unclear as to what exact equipment will be used but reporting should include this, as is required under CMS COP12.14 (CMS, 2017). Areas that need addressing are highlighted in the extract in appendix I.

The purpose of the pre-watch is to monitor for the presence of marine mammals within an area of 1,000m radial distance from the location of the sound source prior to commencement of sound producing activity. DAHG, 2014 requires a pre-watch period of at least 30 minutes. Sound-producing activity will not commence until at least 30 minutes have elapsed with no marine mammals detected within the monitored zone. The extended pre-watch, during the months of May to September inclusive, was requested by NPWS in relation to survey works proposed under Foreshore Licence FS007029. If calves have been spotted in the monitored zone the sound-producing activity shall not commence until at least 45 minutes have elapsed with no marine mammals detected within the monitored zone by the Marine Mammal Observer. The delay recognises the slower swim speed of mothers with calves compared to adults alone and allows additional monitoring time to ensure they have left the monitored area of 1,000m.

Marine Mammal Observer Reports including details of the monitoring activities will be submitted to NPWS as required by DAHG 2014.

#### Applicant's response to submission 4.

I am writing to you as I am very concerned about the scale and size of the offshore wind farm planned for Dublin, Bray and Arklow.

I am in favour of finding new sources of sustainable energy but this must be balanced with caring for the environment, thought about the impact it will have on marine life, the sea bed and proximity to shore.

The scale of the wind farm is excessive and that the size of the actual turbines are significant when considering how close to shore they will be.

It is not, in my opinion, suitable for the area and it needs to be located further out to sea or indeed smaller in size and scale.

There are alternatives which are not being considered which are far more ecologically sound and leave less of an impact.

I believe this project is wrong and should not proceed in its current form.

Please revisit the scale and size and type of turbines used for the project and ensure they are located further out to sea.

It would be an anomaly within Europe to have this type of wind farm located where they are currently planned.

This application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable route(s) to shore and associated infrastructure. The proposed windfarm will be the subject of further consultation in the future as part of the development consent process under the Maritime Area Planning Act, 2021 and the associated consent framework. An Environmental Impact Assessment Report will be submitted with the application which will include an assessment of the potential impact the wind farm may have on a range of receptors including seascape, marine mammals, birds, navigation and the physical environment. The development consent application documents will also include details of the alternatives considered and the reasons for selection of the site.

### Applicant's response to submission 5.

I would like to stress the importance that there would be transparency in this process.

We need renewable energy sources as quickly as possible. At the same time, I am concerned that this would be pushed through without due consideration of a fair deal for the tax payer who will be funding this. Selling off marine "sites" for private developers to develop and paying them for this, involves the danger that other nations would benefit from the energy generated and not Ireland.

I believe a French company already has access or rights to one such site.

Could it be considered alternatives to the giant fixed wind turbines that are proposed?

For example floating turbines that do not damage the marine biodiversity?

This application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable route to shore and associated infrastructure.

In due course the proposed windfarm will be the subject of further consultation through the development consent process under the Maritime Area Planning Act, 2021 and its associated consent framework.

Under the Maritime Area Planning Act, 2021, the occupation of maritime sites will require a Maritime Area Consent (MAC). This is a type of interest under which developers will be required to pay the Government for permission to occupy the maritime area. MACs will generate income for the Irish economy. In addition to, and separate from the MAC, a development consent will be required for permission for to construct and operate projects in the maritime area. The application for the latter will be accompanied by an Environmental Impact Assessment Report which will include an assessment of alternatives, the potential impact that the proposal may have on a range of receptors including seascape, marine mammals, birds, navigation and the physical environment. The development consent process under the Maritime Area Planning Act, 2021 will also include for public consultation and participation in the decision-making process.

## Applicant's response to submission 6, Augustus Cullen Law.

### Primary Concern

We have been retained by the fishermen whose names and vessels are set out [Above] fishermen primarily from the East coast Dublin Array, Kish, Wicklow, and Arklow area. Our clients are increasingly concerned at the far reaching proposals for wind farms in the Irish Sea. They see major lacunae and neglect in the approach of the sponsoring companies to their opportunity, income and livelihoods in fishing in the Irish Sea.

RWE are committed to continuing engagement with fishers regarding the planning and delivery of the survey works included within the Foreshore Licence application. In addition to having a Fisheries Liaison Officer available as a direct point of contact for interested fishers, consultation meetings were held in September 2021 in advance of the submission of the Foreshore Licence application with in-person meetings held in both Wicklow and Dún Laoghaire. RWE are committed to working with the local fishers to promote co-existence of our two industries throughout the life time of the Dublin Array project.

### National policy implications

The nature and extent of this application and related adjacent applications by other Wind Farm Companies are of such a scale that a comprehensive framework is required if these developments are to proceed in a manner consistent with the interests and constitutional rights of traditional fishermen, navigation and the community generally.

The development of wind energy is important strategically and economically. It requires an coherent and joined up approach which gives due regard to the interests not just of wind power developers and the exigencies of energy planning, but also to the impacts on the marine environment, on fishing activity and the livelihoods of the fishermen who have traditionally made their livelihood from fishing in the area.

The following issues arise:

#### 1. Nature and extent of the applications

2. Stages of Development: surveys, construction, development and operation.
3. Impact on fishers - fisheries impact assessments
4. Impacts on Environment
5. Exploitation of marine resources.
1. Nature and extent of applications

The applications for foreshore licences cover substantial areas in the immediate vicinity of the East Coast of Ireland and in particular in this application Dublin Array, Bray Banks and Kish. It is also clear that significant areas of the Exclusive economic zone outside the foreshore area may be absorbed or impacted by wind farms. They are included in this geotechnical surveys. If the true impact of these developments is to be assessed, then it should not be done on a piece meal basis, but it should be done in an integrated way. This will involve both the Foreshore Acts 1933 to 2014 and the Continental Shelf Acts. It appears that some of the proposed development and surveys may extend beyond the Foreshore and into Ireland's exclusive economic zone on the Continental Shelf and require careful statutory processes to avoid an ultra vires situation. It must take into account the MARA Act and National and EU policy documentation and Marine Spatial Plans

The extent of the geophysical and geotechnical surveys proposed under this Foreshore Licence application are shown in Drawings 2 and 3 of Annex B to the application documents. These survey locations are in the vicinity of the Kish and Bray Banks. In accordance with good practice ecological monitoring, including mobile surveys and deployment of static acoustic monitoring devices are proposed within the proposed wind farm development boundary but also within the surrounding area to enable monitoring for potential far field effects. To accommodate the spatial requirements of ecological monitoring the Foreshore Licence area extends beyond the proposed development area to the north, south and east. The survey area which is the subject matter of the Foreshore Licence application does not extend beyond the 12 nautical mile limit and therefore all proposed activities will be undertaken entirely within the foreshore.

## 2. Stages of Development

The proposed developments will have different impacts as they progress. It is necessary to distinguish four stages as follows (a) the surveys stage, (b) the physical planning stage, (c) development stage and construction, and (d) the operating stage. It is suggested that a coherent and consistent approach to the each of these stages should be mapped out, so that all those concerned and affected by these major developments are in a position to take an informed view. In what follows below we concentrate on the fisheries and environmental aspects.

The Foreshore Licence application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable route to

shore and associated infrastructure. It should be noted that, in addition to the briefing meetings held with fishers in advance of the submission of the Foreshore Licence application to explain the purpose and content of the application, correspondence was also issued to Augustus Cullen Law including a link to the application documents and a reminder of the deadline for submissions to be made.

With respect to the proposed development of the Dublin Array windfarm, which is not the subject of the Foreshore Licence application, RWE is committed to providing clear information to interested persons concerning the proposed planning and development timeframe and associated activities, which can be identified on the Dublin Array project web-site [www.dublinarray.com](http://www.dublinarray.com). In addition, a Fisheries Liaison Officer (FLO) has been in place for the project since May 2019 and will continue to be available to the fishing community to ensure effective communications during the planning and execution of the proposed surveys and throughout future stages of the project lifetime.

RWE have also advised interested persons to register their interest in receiving project updates via our web-site (refer footer on the project web-site) to understand the development stages of the project and our understanding of the programme associated with same (recognising that that a number of the stages are still the subject of future policy and legislation which is outside of RWE's control).

### 3. Impacts on fishers.

Of critical concern to us is that the current daily users of the Irish Sea, the fishermen we represent, who use it as a workplace have not been consulted adequately in the process to date. Their concerns relate to the impacts of each of the stages of large-scale development identified in paragraph 2 above. These impacts concern (i) the potential loss of opportunity to fish, (ii) the loss of income and, (iii) ultimately the loss of livelihood. If these developments are to proceed in a manner consistent with established rights of local fishers, it is imperative that the agencies of the state ensure that mechanisms are put in place to vindicate the fisher's rights. We believe that inter alia, this requires an independent assessment of the impacts in paragraph 3 on fishers at each of the stages mentioned at paragraph 2. We believe that to expedite development the most effective means would be to put in place a mediation process to compensate for those losses at each stage. Ideally a national strategy and framework would be negotiated and agreed.

RWE have been engaged with the fishing industry in relation to the proposed Dublin Array windfarm for the past 3 years. The FLO is in regular discussion with fishers, quayside meetings have been held and RWE regularly communicate with the solicitors who are representing some of the fishers. RWE consider that continued engagement with the fishing industry is essential and will be of benefit to all parties as the project progresses. RWE wish to work with the fishing industry to develop, implement and maintain a co-existence strategy for the life time of Dublin Array. Specifically in the context of the activities to which this Foreshore Licence application relates, RWE intends to continue working with fishers to ensure that the necessary actions are

taken to ensure that these activities are completed in an efficient manner promoting co-existence wherever possible.

#### 4. Impacts on the environment.

A major consideration in assessing these applications must be evaluation of the likely impact of developments of this scale on the spawning beds and fishery grounds in the area being assessed for proposed development. It is suggested that the parameters of the exploratory work should be in partnership with the existing users, and not independently of them and their ongoing activities. Our fisher client report to us that they catch since the last RWE survey is down 70%. This devastating damage to whelk and other fish stocks since the last survey needs to be independently investigated. Our fisher clients firmly believe this reduction is a consequence of the last RWE survey. Our clients are willing to liaise with the evidence of their reduced turnover with an investigation by you.

No effect on shellfish ecology, including spawning grounds, are anticipated from the activities which are the subject of the Foreshore Licence application. Unlike finfish, shellfish do not possess gas filled cavities and there is therefore less potential for physiological damage to occur due to noise exposure from either geophysical or geotechnical surveys, as there is no mechanism for marine invertebrates to detect pressure changes associated with sound waves. However, whelk in common with some other invertebrates may be able to detect particle motion associated with sound waves, that is the motion of molecules in water due to the sound. The particle motion component of underwater noise typically attenuates more rapidly than the sound pressure component in the near field, therefore it is considered likely that particle motion levels which may invoke avoidance responses would only be present in very close proximity to the source. Invertebrates have much lower sensitivity to particle motion than finfish and the areas over which they are likely to be able to detect sound through particle motion are likely to be much smaller than those areas identified for fish species (Thompson et al., 2015)<sup>1</sup>. Injurious effects resulting from particle motion are yet to be demonstrated for any marine noise source (Popper et al., 2014).

A number of robust studies of catch rates and abundance of shellfish species are also reported in scientific literature, which show no significant differences between sites where geophysical activity occurred and those where it did not (Wardle et al., 2001<sup>2</sup>; Parry et al.,

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<sup>1</sup> Thomsen, F., Gill, A., Kosecka, M., Andersson, M. H., Andre, M., Degraer, S., ... & Norro, A. (2015). MaRVEN– Environmental Impacts of Noise, Vibrations and Electromagnetic Emissions from Marine Renewable Energy. Final study report., Brussels, Belgium.

<sup>2</sup> Wardle, C.S., Carter, T.J., Urquhart, G.G., Johnstone, A.D.F., Ziolkowski, A.M., Hampson, G., Mackie, D., 2001. Effects of seismic air guns on marine fish. *Cont. Shelf Res.* 1, 1005–1027.

2002<sup>3</sup>; Christian et al., 2003<sup>4</sup>; Parry and Gason, 2005<sup>5</sup>; Courtenay et al., 2009<sup>6</sup>). The geophysical surveys to which these studies relate employed seismic air guns, which operate at low frequencies but much higher intensities than those planned for Dublin Array.

A number of the intended survey techniques, namely the boreholes, vibrocores, cone penetration tests (CPTs), ecological grab samples and trawls and buoy deployments, are intrusive, in that they remove or disturb a small area of seabed. The footprint of these activities combined results in temporary disturbance of a maximum area of 50.88 m<sup>2</sup> across the subtidal extent of the Foreshore Licence area (1,129,86ha). The seabed disturbance will therefore have a negligible effect on shell fish stocks.

The feedback we received from fishers who regularly fish for whelk, crab and lobster in the vicinity of the site investigations which were conducted by RWE in 2021, indicated that fishing was good following the surveys, with catches not affected. Some fishers in the wider area did report that catches are down compared to earlier in the year, however RWE understand that variability in catch rates across the area is common. A reduction in catch across the fishery due to the surveys which were undertaken is not apparent from the information we have received and there is no pathway by which the surveys which were undertaken could significantly affect shellfish species.

## 5. Exploitation of wind resource.

The offshore wind resource is a national marine resource in much the same manner as fish or hydrocarbons. It therefore raises issues regarding exploitation and distribution of benefit.

Article 10 of Irish Constitution provides that all forms of potential energy within the territory of Ireland are owned by the State, including energy from wind which is a natural resource. The material difference with hydrocarbons and fish, also natural resources owned by the State, is that offshore wind is wholly renewable and infinite in its resource potential. Insofar as there is any benefit to be derived from the harnessing of the renewable energy potential of the State, this benefit is owned by the State on behalf of the people of Ireland, not any specific sector. The State may extract this benefit by either directly developing the necessary infrastructure, or by granting rights to third parties to do so, for a return in the form of a royalty, rent, or fee, such amount to be fixed under current legislative mechanism by the Minister for Public Expenditure and Reform, based on an independent valuation procedure. A Maritime Area

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<sup>3</sup> Parry, G.D., Heislars, S., Werner, G.F., Asplin, M.D., Gason, A., 2002. Assessment of Environmental Effects of Seismic Testing on Scallop Fisheries in Bass Strait. Marine and Freshwater Resources Institute (Report No. 50).

<sup>4</sup> Christian, J.R., Mathieu, A., Thompson, D.H., White, D., Buchanan, R.A., 2003. Effect of Seismic Energy on SnowCrab (*Chionoecetes opilio*). Environmental Funds Project No. 144. Fisheries and Oceans Canada. Calgary (106p).

<sup>5</sup> The effect of seismic surveys on catch rates of rock lobsters in western Victoria, Australia, GD Parry and A Gason, 2005.

<sup>6</sup> Courtenay, S.C., Boudreau, M., Lee, K., 2009. Potential Impacts of Seismic Energy on Snow Crab: An Update on the September 2004 Peer Review. Fisheries and Oceans Canada, Moncton.



Consent ('the State Consent'), provided for by the Maritime Area Planning Act, 2021 is the lease mechanism for which successful applicants intending to develop offshore infrastructure will be required to pay the Government for permission to occupy the maritime area.

## Proposal for a way forward

We have identified the following as critical:

1. Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 envisages maritime spatial planning as a cross-cutting policy tool enabling public authorities and stakeholders to apply a coordinated, integrated and trans-boundary approach. At the core should be a national strategy, a National Marine Spatial plan, drawn up in consultation with the competing economic interests, and those effected by the possible or probable Marine development. Members of the public should be afforded the opportunity to input and comment on any draft plan. The adoption of such approach would be a matter for government, as well as EU level, much as the County Development Plans are a matter for local authorities. Such an approach could consider in a holistic way, not just the distribution of economic benefits, but also environmental impacts, the impacts on fishing communities, impacts on Navigation, the impacts of exclusion zones and so forth.

2. Financial and compensatory arrangements in relation to the short, medium and longer term should be independently assessed and developed to address the loss of opportunity to current economic players, and in particular fishermen for their loss of opportunity during exploratory work, and their loss of income during development, and any loss of livelihood consequent on operation of the wind projects.

3. Appropriate environmental studies should be identified in conjunction with fishers and scientists and concluded before embarking on elements of these projects which might have unassessed impacts.

Notwithstanding the publication of the National Marine Planning Framework in 2021 following extensive public consultation, the suggestions set out above appear to be addressed to the State rather than RWE.

Specifically having regard to the request for appropriate environmental studies to be undertaken, the Foreshore Licence application was informed by environmental assessments, environmental impact assessment screening and a Natura Impact Statement. RWE understand that the application will be subject to a comprehensive evaluation undertaken on behalf of the Minister and his Department and therefore an independent assessment.

## Conclusion

It is of concern to our fishing clients that consents are being considered and granted on a piecemeal basis without due consideration for our clients' industry interests as stakeholders in the Irish Sea.

The projects now being contemplated involve a major incursion into the Irish Marine area. As such it would be appropriate to agree an overall approach and principles. A collaborative consultative process with the fishers being impacted could be used to guide developments and take proper and timely account of impacts, and avoid the dislocation and delays which failure to involve the affected fishermen will trigger.

On behalf of our fishers clients, we would ask to be included in a meaningful process in relation to the impacts on our clients, with a view to a mediated resolution of the income and opportunity issues which these proposed developments raise for our clients.

There is a parallel between the manner in which it was necessary to articulate a policy in relation to offshore hydrocarbon exploration. It is pointed out that the environment and economic implications of wind power development could be at least as significant - possibly even more so.

This is an opportunity for the relevant Departments to take a leadership role and balance and mediate a pragmatic co-existence relationship and financial framework between the fishermen and the Windfarm developers.

As the remarks above are concluding in nature RWE are of the opinion that the matters set out in this submission have been addressed in the preceding section of this response.

## Applicant's response to submission 7, The Adela-Hare Centenary Commemoration Committee

It is important to note that these vessels (S.S. Hare and S.S William Barkley) still lie on the seabed and in most cases the remains of the crew members lost have never being recovered, and for many families represent the final resting place of their relatives.

This foreshore licence application, if given the go ahead, has the potential to impact on 24 known wrecks and another 125 unknown wrecks and uniquely a submerged forest extending from Bray Harbour northwards to Shanganagh Park near Shankill. While we note that RWE Renewables Ireland Limited intends to establish Archaeological Exclusion Zones (AEZs) around known wrecks and 'potential receptors', We have grave concerns about the scale of the geotechnical and geophysical site investigations to be undertaken and the impact these investigations will have on marine archaeology. We would like to draw your attention to the attached publication entitled 'Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects' dated July 2021 which addresses the issue of offshore windfarms and marine archaeology and is a guidance document from a United Kingdom perspective.

We would strongly urge that in conducting any works associated with the geotechnical and geophysical site investigations that full respect is shown for not just these vessels/shipwrecks but all vessels/shipwrecks in a comparable situation and that all necessary measures are taken to fully survey known and unknown shipwrecks and to prevent their disturbance.

RWE acknowledge the presence of a large number of known and unidentified wrecks within the proposed survey area and the potential for additional wreck sites to be present which have not yet been discovered. RWE also recognise the important contribution that wreck sites make to our understanding of the past and the sensitivity of sites where there has been associated loss of life.

A detailed assessment of the potential impacts of the geophysical and geotechnical investigations, environmental surveys and deployment of monitoring equipment upon the marine archaeology of the area is presented in the Marine Archaeology Assessment, Annex D of the Application Documents. The Annex also includes a number of mitigation measures to which RWE are committed to implementing, presented in Table 6. These follow the recommendations within Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects (The Crown Estate, 2021). The primary mitigation measure is avoidance of any impact to marine archaeology through the establishment of Archaeological Exclusion Zones (AEZ). The Maritime Archaeology Assessment concludes with the proposed mitigation in place there will be no significant impact on the marine archaeology in the area. The SS W.M. Barkley lies outside of the Foreshore Licence Area. The SS Hare lies at the eastern edge of the ecological monitoring area, and will be subject to an AEZ.

Geophysical surveys: The proposed geophysical surveys will be undertaken in the vicinity of the Kish and Bray Banks and landward along narrow corridors within the area as shown in Figure 2, Annex B of the application documents. The geophysical surveys will not have any impact upon archaeological features as there is no contact with the seabed. The geophysical survey, will be completed under a Detection Device Consent issued by the National Monuments Service (NMS). The survey data recorded will be interpreted by a suitably qualified archaeologist and reported to the NMS and is expected to further understanding of the archaeological resource of the area.

Geotechnical surveys: The geotechnical survey area is also in the vicinity of the Kish and Bray Banks and landward along narrow corridors within the area as shown in Figure 3, Annex B of the application documents. All available information and data will be studied by an archaeologist ahead of the works and locations will be selected to avoid wrecks or anomalies which may indicate the presence of previously undetected archaeology. AEZs will be established around these locations. Further investigation of sites of potential archaeological interest may be further investigated by archaeological survey under licence from the NMS to ascertain whether the site is of archaeological interest. In the event that such a survey confirms the location is not of archaeological potential the AEZ would be removed in agreement with the NMS. All seabed material recovered will be studied by a qualified archaeologist for evidence of submerged deposits of archaeological and/or palaeoenvironmental interest.

## Deployment of Static Acoustic Monitoring and wind, wave and current measuring buoys:

Indicative locations at which wind wave and current monitoring buoys may be deployed are shown in Figure 7, Annex B of the application documents. These locations are on the Kish and Bray Banks. Static Acoustic Monitoring (SAM) devices may be deployed over a wider area as shown in Figure 6 of the same Annex. All available information and data will be studied by an archaeologist ahead of the works and locations will be selected to avoid wrecks or anomalies which may indicate the presence of previously undetected archaeology. AEZs will be established around these locations.

Ecological monitoring: Fish, shellfish and benthic monitoring surveys may take place in discrete locations over the wider survey area. The locations will be chosen to avoid any potential impact upon archaeological features.

A Written Scheme of Investigation (WSI) is an over-arching document, which is implemented and maintained throughout the lifetime of a project. It sets out principles and responsibilities to ensure that surveys and site investigations undertaken for the project are, where relevant, designed to provide archaeological information. The WSI also establishes the responsibilities of the developer, the retained archaeologist, site investigation and construction contractors and the State's archaeological curators in respect of monitoring and reporting. The WSI also describes the known and potential archaeological resource of the area and sets out agreed mitigations. A WSI for the project was implemented ahead of the early site investigations that were undertaken in 2021 and will be updated and amended as the project develops.

## UNESCO Biosphere Status/Tourism

In 1981 and again in 2015, Dublin Bay was named a biosphere reserve by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in recognition of Dublin Bay's unique ecological habitat and biological diversity. According to UNESCO, a biosphere reserve is an area of land which protects ecosystems while encouraging local development through nature conservation.

These geotechnical and geophysical site investigations will no doubt in time will assist the follow on offshore wind farm development and thus it is important to question what will be the impact from a tourism, ecological and maritime perspective.

## Ecological/Biodiversity

It is our committee's concern that the proposed geotechnical and geophysical site investigations and follow on offshore wind farm development have the potential to cause permanent damage to the fragile sand banks and the associated ecology/biodiversity to be found in the Irish Sea.

This application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable route(s) to shore and associated infrastructure. The proposed windfarm will in due course be the subject of further consultation through the development consent process under the Maritime Area Planning Act, 2021 and the associated consent framework. An Environmental Impact Assessment Report will be submitted with the application which will include an assessment of the potential impact the wind farm may have on a range of receptors including tourism and ecology.

According to RWE Renewables Ireland Limited the eventual 'Dublin Array' offshore wind farm development will be located 10km offshore from the shoreline. This is far closer than the norm across the EU when it comes to similar offshore windfarm development projects. The visual impact of offshore wind turbines within 10km of the shoreline would be a significant issue from both a visual and tourism perspective.

Across Europe different jurisdictions have adopted different policies regarding the proximity of wind farms to the coast. A number of factors influence these policies including cultural and economic factors, length of coast line and dimensions of areas of territorial seas and available water depth. A number of offshore wind farms have been constructed within 20km of the coast of their respective countries, including projects in the UK, Denmark and Sweden, for example Egmond aan Zee, Netherlands at 13km, Thanet, UK at 11km, Lillgrund, Sweden at 9km. The proposed windfarm will in due course be the subject of further consultation through the development consent process under the Maritime Area Planning Act, 2021 and the associated consent framework. An Environmental Impact Assessment Report will be submitted with the application which will include an assessment of the potential impact the wind farm may have on a range of receptors including tourism and visual/seascape impacts.

This investigative foreshore licence application for geotechnical and geophysical site investigations would impact negatively on the following Natura 2000 conservation sites:

- Howth Head Coast SPA [004113]
- South Dublin Bay and River Tolka Estuary SPA [004024]
- North Bull Island SPA [004006]
- Dalkey Islands SPA [004172]
- The Murrrough SPA [004186]
- Howth Head SAC [000202]
- South Dublin Bay SAC [000210]
- North Dublin Bay SAC [000206]
- Rockabill to Dalkey Island SAC [003000]
- Bray Head SAC [000714]
- The Murrrough Wetlands SAC [002249]

A Report to Inform Appropriate Assessment Screening was submitted as Annex E of the application documents. All of the Natura 2000 sites listed above were considered within the screening assessment using the source-pathway-receptor approach. In line with recent guidance (OPR, 2021) the screening considered all sites that fell within the defined Zone of Influence (Zol) of activities (Section 3.3 of the Report to Inform AA Screening). All European sites within the Zol were screened and the potential for direct and indirect effects were considered.

The screening assessment screened out Howth Head Coast SPA and Dalkey Island SPA as no impacts are foreseen on the qualifying interests of these sites due to the limited spatial and temporal extent of the surveys proposed. Howth Head SAC, Bray Head SAC and the Murrough Wetlands SACs were also screened out as the features of conservation interest for those sites are not found within the Foreshore Licence area and no impact pathway exists to these features, e.g. vegetated sea cliffs and European dry heath. The North Dublin Bay SAC is outside the area of any possible direct impact from the geophysical and geotechnical surveys, or areas of wind wave and current and Static Acoustic Monitoring deployment. Ecological sampling is highly localised and no likely significant effects on this feature are anticipated to occur.

The remaining sites listed above were screened in for Appropriate Assessment. RWE has presented the conclusions of the assessment in Annex F of the applications documents. The assessment has concluded with appropriate mitigation in place, as presented in Annex F, no likely significant effect on the qualifying interests of these SPAs or SACs.

The proposed geotechnical and geophysical site investigations and follow on offshore wind farm development have the potential to cause permanent damage to the fragile sand banks off the east coast of Ireland thus impacting on the above Natura 2000 conservation sites and their associated ecology/biodiversity status. The coastline would be under serious threat from loss of the protection that the sand banks offer the coastline.

The proposed geotechnical and geophysical site investigations and the eventual construction and operation of an offshore wind-farm can potentially have an impact on the hydrography and the geomorphology surrounding the offshore windfarm area. An offshore wind farm may change the water flow and the sediment properties in the area. The resistance from the foundations of wind turbines may influence the current and wave conditions in the wind farm area and this may influence the rate of erosion and deposition of sediment in the area which could have a bearing on the surrounding ecosystem and marine archaeology, in particular shipwreck sites. The potential impacts on local hydrography may also affect the coastal morphology in the area, due to changes in current conditions and erosion and deposition of material.

The geotechnical and geophysical surveys will not affect the stability of the sand banks or the coastline. This Foreshore Licence application is for permission to undertake site investigation and not for consent to build a wind farm. An application for development consent under the Maritime Area Planning Act, 2021 and its associated consent framework will be submitted in due course. The Environmental Impact Assessment Report which will be submitted with the development consent application will include a full and detailed assessment of potential impacts on marine physical processes including impacts on the sandbanks and the coastline.

According to the investigative foreshore licence application, RWE Renewables Ireland Limited intend to carry out geotechnical survey work involving the following number of boreholes which seem quite a lot and will impact the existing seafloor quite considerably in the proposed survey area.

Disturbance to the physical subtidal and intertidal habitats was assessed from all activities including boreholes within the Report to Inform Appropriate Assessment Section 6.4. The total area of seabed removed or disturbed across the proposed survey area is negligible in the context of the overall spatial extent of the proposed survey area, will be highly localised and any disturbed seabed will backfill naturally.

The disturbance of placing turbine foundations so close to sensitive protected conservation sites and species along the coast has potential to create difficulties when it comes to the installation of cables necessary to get the power ashore. The sea bottom preparation for wind turbine foundations and cable laying activities during the eventual construction phase will cause destruction and disturbance of the local benthic fauna and flora.

This Foreshore Licence application is for permission to undertake site investigation and not for consent to build a wind farm. Physical disturbance to the habitat from the survey activities subject to this licence were assessed within the Report to Inform Appropriate Assessment Section 6.4, Annex E of the application documents. The total area of seabed removed or disturbed across the proposed survey area will be highly localised and any disturbed seabed will backfill naturally. No significant effects on local hydrography or seabed/coastal morphology will arise. The potential impact of the wind farm development itself will be assessed and the results reported in the Environmental Impact Assessment Report which will accompany the development consent application under the Maritime Area Planning Act, 2021 and its associated consent framework in due course.

Indeed, we would like to draw your attention to the attached publication entitled 'Problems and Benefits Associated with the Development of Offshore Wind-Farms' OSPAR Commission 2004 and to pages 15 to 18 in which it summarises possible impacts of offshore wind farms on the different parts of the environment including biodiversity are described in general.

The OSPAR Commission, 2004 report identifies potential impacts which may arise from the development of offshore wind farms. Whether the impacts identified will arise and if so, the extent and severity of the effect, is dependent upon the specific details of the proposed development and the nature of the receiving environment. In the context of the subject matter of this application OSPAR, 2004 places emphasis on the importance of undertaking geological (e.g. sonar, seismic) and geo-technical (e.g. drilling, cone penetration tests) ground investigations to understand baseline conditions such as soil stability and to inform the final design of an offshore wind farm.

The report was published in 2004 when offshore wind development globally was in its infancy (the first offshore wind farms of 200MW or more were not commissioned until 2009). Since 2004, monitoring data from operational wind farm sites continues to add to the body of knowledge and understanding of impacts associated with the construction and operation of these facilities. The Environmental Impact Assessment which will be submitted with the development consent application for the proposed wind farm will fully assess the potential impacts associated with the proposed development including but not limited to the relevant impacts identified in the OSPAR, 2004 and subsequent publications by the OSPAR Commission.

## Consultation Process

We do note that prior to submitting the investigative foreshore licence application, RWE Renewables Ireland Limited have not undertaken any consultation process specifically with any consenting authorities such as planning authorities, Commission for Energy Regulation, etc., in relation to the scope of this foreshore licence application. This seems very particular, and one wonders if their current investigative foreshore licence application is somewhat premature in purpose.

The Foreshore Regulations, 2011 (S.I. No. 353 of 2011) prescribes the bodies which the Minister for the Environment, Community and Local Government may seek observations in respect of an application for a foreshore lease, licence or permission, the list of prescribed bodies (Regulation 3) includes the Commission for Energy Regulation (CRU) and relevant planning authorities. There is no legal requirement for RWE to undertake pre-application consultation on a foreshore licence application for site investigations.

## The Applicant's Response to Public Submission 8.

The cumulative impact of repeated geotechnical and geophysical site investigations on our fragile marine environment must be considered. All cause disturbance to marine life and habitats. In the absence of designated marine protected areas we can not permit repeated disturbance. The risk of irreversible damage is too great. The biodiversity crisis is as important as the climate crisis. We must not ignore biodiversity in efforts to address the climate crisis.



Annex E of the application documents includes Appropriate Assessment Screening for in-combination effects, Section 7.4. Information to aid the Minister's assessment of the potential for effects of the proposed works to arise, in-combination with other plans and projects is provided in Section 4.3 of the Applicant's NIS, Annex F to the application. Given the localised nature of any effects from geotechnical and geophysical site investigations and commitments made to appropriate mitigation measures no adverse effects upon the European Site's integrity as a result of the in-combination proposed works are anticipated.

## Public Consultation

To date no meaningful effort has been made by Government to inform the public in a balanced way of both the pros and cons associated with such large scale near shore marine windfarms. It would appear from what has been happening so far that there is an alliance between the Government and developers and a biased drive to facilitate developers to progress their windfarm businesses. The Government has been promoting offshore windfarm development but has failed to inform the public, based on unbiased scientific evidence, of the environmental impact that may accrue from such large scale near shore investigations and development. Rather than depend on developers to do it, our Government must take responsibility for facilitating public consultation and open meaningful public debate in the exceptional context of a pandemic. No special efforts seem to have been made by Government to engage with citizens by producing user friendly, accessible, unbiased information about proposed projects and the alternatives. As a citizen I consider myself disenfranchised by the lack of unbiased public information and consultation relating to this proposal for such massive permanent alteration to our precious marine environment and coastal landscape.

This comment is addressed at a perceived failing in public consultation processes. This application has been open to public inspection and submissions to inform the Minister's decision making process on the proposed site investigations Foreshore Licence.

The future development consent application for the construction and operation of the wind farm project will be subject to independent assessment (including environmental impact assessment) by An Bord Pleanála in accordance with the consent framework to be implemented under the Maritime Area Planning Act, 2021. This decision-making process will be subject to public consultation and participation as legislated for under the Act. RWE as the applicant are also focussed on engagement with interested parties and further information in this regard is available at the project web-site [www.dublinarray.com](http://www.dublinarray.com).

## Consideration of alternatives

In the rush to meet climate targets it seems that all alternatives regarding site selection and turbine type have not been given due consideration. Although great progress has been made with the development of floating turbines, they seem to have been dismissed as a possibility for the Irish East Coast. It is said repeatedly that the technology is not yet sufficiently advanced and that the Irish Sea is too deep but there is also much information available that suggests they can be used effectively in similarly adverse conditions elsewhere. It is crucial that all alternatives are given full unbiased consideration before we progress any particular projects.

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This application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable route to shore and associated infrastructure. The proposed windfarm will be the subject of a future development consent application under the Maritime Area Planning Act, 2021 and its associated consent framework. This development consent application will be accompanied by an Environmental Impact Assessment Report which will present information on the alternatives considered and the reasons for selection of the preferred alternative.

## Failure to designate Marine Protected Areas

In the interests of preserving the biodiversity of our fragile marine environment absolutely no disturbance to our coastal waters by developers should be permitted before we designate Marine Protected Areas. It is shameful that as an island nation we have designated a mere 2% of our marine environment for protection. Without the designation of MPAs there can be no safe site selection.

The designation of Marine Protected Areas is an active workstream being progressed by the Department of Housing, Local Government and Heritage currently. This process is outside of the control of RWE and not related to the subject matter of the surveys to which this foreshore licence application relates. It is considered that the limited geographical and temporal extent of the proposed site investigations would not interfere with the proposed designation of MPAs or the objectives of any such designations.

## Legacy Projects

It is absolutely unacceptable that projects that submitted applications under outdated legislation, before we had the kind of environmental awareness we have now, are given special status of any kind. All proposed projects should start from scratch under the new legislation and be subject to full scrutiny in accordance with up to date best international standards for windfarm development and site selection. There should be no preferential standing based on an outdated application process.

Section 100 of the Maritime Area Planning Act 2021 defines a 'relevant MAC usage' as including any proposed maritime usage which is for the purposes of producing, from wind, offshore renewable energy where the usage – (a) is the subject of an application for a foreshore authorisation made before 31 December 2019 and which has not been finally determined, or abandoned or withdrawn, before the coming into operation of s.101, (b) is the subject of a foreshore authorisation, or (c) was, on 31 December 2019, the subject of (i) a valid connection agreement from a transmission system operator, or (ii) confirmation by a transmission system operator as being eligible to be processed to receive a valid connection offer. The Dublin Array project therefore is one of a number of projects that is eligible to be invited by the Minister pursuant to section 101 to apply for a MAC, within such period as the Minister's invitation may prescribe.

Subject to award of a MAC the proposed Dublin Array wind farm will still be required to apply for development consent to An Bord Pleanála similar to other strategic infrastructure projects developed (and under development). This development consent application will be subject to public consultation and independent environmental impact assessment by An Bord Pleanála.

## Site selection

It is absolutely unacceptable that developers have been permitted to select sites without environmental constraints. Based on best independent expertise, sites should be selected by Government and developers should only be offered opportunities to propose projects within suitable designated zones. We rely on our elected representatives to safeguard our long term interests by setting boundaries and controlling development. Such blatant allegiance to, and preferential positioning for, legacy projects demonstrates clearly that this is not happening.

This application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable route to shore and associated infrastructure. The information that such surveys provide enable wind farm developers to bring forward the best project, to minimise the environmental effects of their proposals and the cost of energy. The development consent application which will be submitted in due course in accordance with the Maritime Area Planning Act, 2021 (and its associated consent framework) will include an Environmental Impact Assessment Report (EIAR) which will identify the adverse and beneficial impacts of the proposed development and set out the alternatives considered and the reasons for selection of the preferred alternative.

## Monitoring of Compliance

Given the enormity of what is at stake it is crucial that provision is made for completely independent expert monitoring of any disturbance to our marine environment caused by investigations should a licence be granted.

If the Foreshore Licence is granted RWE will comply with the conditions of that Licence.

## Highest Standards for Environmental Impact Assessments

It is crucial that the Government engages independent expertise of the highest calibre to ensure that Environmental Impact Assessments are broad enough and conducted in accordance with current highest international standards.

In the context of the foreshore licence application the assessment (including the assessment of the environmental impacts of the surveys proposed) will be undertaken by the Minister and Department of Housing, Local Government and Heritage with input from various statutory agencies with skills and experience in the marine sector such as the Marine Institute, the National Parks and Wildlife Service and the Sea Fisheries Protection Authority. Where considered appropriate the Department may also appoint external specialist consultants to assess this application to inform the decision-making process.

### The Applicant's Response to Public Submission 9.

The proposed geophysical and geotechnical exploratory works are extensive (see below\*) and involve drilling up to 80 m into the seabed at numerous unspecified sites, the creation of boreholes, use of dredging and otter trawl, use of sonar etc. all of which I believe will materially affect the proposed site's structure and habitat, its range of biodiversity, its benthic composition and will compromise its integrity as a potential future Marine Protected Area (MPA). From my calculations in accordance with the developer's own estimate of drilling hours, there will be a cumulative time scale of seabed drilling in and around the bay of one form or another for up to 150 days round the clock or 3600 hours over 'X' years.

The proposed geophysical surveys will be undertaken in the vicinity of the Kish and Bray Banks and landward along narrow corridors within the area as shown in Figure 2, Annex B of the application documents. The geophysical surveys will not have any contact with the seabed and will not therefore affect the site's structure or benthic habitats.

A number of the intended survey techniques, namely the boreholes, vibrocores, cone penetration tests (CPTs), ecological grab samples and trawls and buoy deployments, are intrusive, in that they remove or disturb a small area of seabed. The footprint of these activities combined results in temporary disturbance of a maximum area of 50.88 m<sup>2</sup> across the subtidal extent of the Foreshore Licence area (1,129,863,400 m<sup>2</sup>). Durations for geotechnical operations are provided in section 2.1 of the Supporting Information Report and include time for positioning and set-up etc and do not indicate continuous drilling.

Disturbance to the subtidal and intertidal habitats from all activities including boreholes was assessed within the Report to Inform Appropriate Assessment Section 6.4 (Annex E of the application documents), which concludes that physical disturbance to habitats and communities and any indirect localised displacement of prey (benthic and fish) would be short term, temporary and over a negligible footprint, therefore no potential exists for significant effects to habitats or species.

The proposed investigations in many aspects seem to have more of a pre-construction scope and objective rather than that of obtaining data to ascertain the potential negative impacts on the sandbanks of the Dublin Array turbines. The nature of the proposed exploratory works, in particular the geophysical and geotechnical works and intensive use of sonar, already indicates to me a lack of care for sandbank marine habitats by proposing an excess of intrusive measures (e.g., multiple drilling points of up to 80 m over the sandbank area and surrounds).

A number of offshore surveys have been undertaken in recent years which have collated data relating to the physical and ecological environment in the vicinity of the proposed Dublin Array Offshore Wind Farm.

The purpose of the proposed site investigations and monitoring activities which are the subject of this Foreshore Licence application are presented in Section 1.3 of the Supporting Information Report, which was submitted with the Foreshore Licence application. The geophysical survey and geotechnical sampling will provide more detailed information on ground conditions, seabed features and variability to inform the design of the proposed wind farm. The investigations will be focussed on proposed turbine foundation locations, inter-array, and export cable routes to the selected landfall location(s). In addition ecological monitoring is proposed to collate data on the pre-construction baseline against which to monitor change in the environment. These surveys can be repeated post construction should Development Consent for the wind farm be granted. A broad suite of activities is included within this Foreshore Licence application and the final scope of ecological monitoring will be agreed in consultation with the appropriate statutory agencies within the parameters of the application made.

The Kish and Bray sand banks are of established ecological importance for protected species including migratory birds, benthic and cetacean species. The banks act as natural coastal protection, and they are important fish spawning grounds and feeding and post-fledgling grounds for protected species of birds. Given this, it is incomprehensible as to why the Department and Minister are allowing the lead developer RWE (only recently involved in this project) to persist in exploratory works for a huge ORE project that intends to construct up to 61 240m – 310 m high wind turbines at a distance of 10 km from the shore. The evident visual intrusion, while focussing the immediate public concern, is ironically the lesser of the long-term real impacts that will be brought about by wind farm construction at this nearshore site.

The proposed surveys which are the subject matter of this application are for site investigation and monitoring activities only. The ecological impacts of these proposed surveys are described in a series of Annexes submitted as part of the application, including Annex C EIA Screening and Environmental Report, Annex E Report to Inform Appropriate Assessment Screening and Annex F Applicant's Natura Impact Statement (NIS).

The wind farm will require a development consent application to be submitted in due course under the Maritime Area Planning Act, 2021 and its associated consent framework. The effects of the wind farm proposal upon benthic habitats, fish ecology, marine mammals, marine birds, seascape, landscape and visual receptors will be fully assessed and the results presented within the suite of documents which will be submitted with that application.

While the applicant developers are at pains to emphasise the 'exploratory' nature of this foreshore licence application, this current application is a cohesive, indivisible part of the process to construct turbines of great height with an extensive and intrusive foundational footprint on a very sensitive site in a high amenity area. I believe it is not credible to consider in isolation the concepts of the investigative stage and construction and operation stages - these are all interlinked as part of the pressure to finalise this nearshore windfarm project under its banner of 'relevant status'. Therefore, the many negative impacts of mega-turbines on these sandbanks can likely be seen as a probable consequence of the granting of this current foreshore licence application.

The Environmental Impact Assessment Directive itself distinguishes between a project for the construction and operation of a wind farm, and site investigations for the purposes of establishing the stability of soils and sediments.

The grant of a foreshore licence which gives permission to undertake surveys and site investigations to inform the design of the wind farm or to collect data for monitoring purposes is made on terms which are expressly without prejudice to the subsequent mandatory development consent application to be made to An Bord Pleanála under the Maritime Area Planning Act, 2021 and its associated consent framework. The site investigation works carried out at a preliminary stage of a project design are not inextricably linked to the construction and operation of the project itself, as the former can occur without the latter, therefore the development and operation of a wind farm is not a probable or likely consequence of granting a foreshore licence application for site investigations.

Over a space of 20 years the strategy of Dublin Array seems to be to repeatedly survey an unsuitable site from a visual, ecological and even infrastructural<sup>7</sup> point of view, until by dint of insistence, a de facto right will be established to build this largescale windfarm on the wrong site – the Kish and Bray sand banks that stretch in front of the coastline of Bray, Killiney Bay and Dalkey. The nearshore marine environment and coastal habitats should not be irrevocably compromised on a corporate or governmental ipse dixit basis by repeatedly surveying and resubmitting foreshore licence applications over and again for the same sensitive site. Again, Dublin Array represent these survey works to be of a solely exploratory nature but reading into the description of the proposed exploratory investigations it appears to me that the works proposed under this licence application are of such a nature as to be seen in effect as site preparation for the construction of turbine foundations and cable laying. It appears to me that the greatly increased extent (1130km<sup>2</sup>) of the area proposed for exploration is also indicative of mission creep as to the scale and impact of the project.

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<sup>7</sup> Blueprint for Offshore Wind in Ireland 2020 – 2050  
<https://www.marei.ie/wp-content/uploads/2020/07/EirWind-Blueprint-July-2020.pdf>

A number of surveys have been undertaken historically in the vicinity of the Kish and Bray Banks in accordance with foreshore licences granted in 2000 and 2021. Over this extended period of time natural features such as seabed bathymetry can change and it is important from an engineering design and environmental assessment perspective that up to date information is obtained concerning not only the current condition but also the rate and nature of any change. The data collected to date is being used to inform preliminary design and environmental assessment. The site investigations (geophysical and geotechnical) which are proposed under the current foreshore licence application will be focussed on proposed foundation locations, inter-array, and export cable routes to the selected landfall location(s) which are being refined in the course of the iterative design and assessment process. The proposed development boundary of the wind farm has not changed. It should be clearly noted that suggestions that proposed site investigations do not amount to "site preparation" works as suggested. That is not an accurate representation of the nature of the survey methods which are the subject matter of the foreshore application.

In accordance with good practice ecological monitoring, including mobile surveys and deployment of static acoustic monitoring devices, is proposed within the proposed wind farm development boundary but also within the surrounding area, to enable monitoring for potential far field effects. For this reason only the proposed survey area has been increased when compared with previous survey boundaries.

Why is Dublin Array's proposed site for exploratory surveys still based on and around the Kish and Bray sand banks and why does it enclose an even greater area of the bay which will impact even further on marine and coastal habitats and established SACs and SPAs? I note that in this foreshore licence application, once again, no alternative site is proposed. I believe the lack of proposed alternative sites (which I thought was a requirement of the foreshore licence process) leads to a confirmation bias in relation the outcome of exploratory surveys for the same site. What is more, the developer's given justifications for the site selection are based mainly on project cost advantages to the developer and nearness to landfall for cables. If the landfall site is to be Poolbeg the cable will also have to pass through the Rockabill to Dalkey SAC, rendering this project even more ecologically impactful – a problem that should clearly be addressed at this stage by not granting this foreshore licence application.

This application is for ecological monitoring and site investigation works required to inform the engineering and design of offshore wind farm, the cable route to shore and associated infrastructure only. There is no legal obligation to propose alternatives for such investigations. The proposed windfarm will be the subject of an application for development consent in due course under the Maritime Area Planning Act, 2021 and its associated consent framework. An assessment of the alternatives and reasons for site selection will be provided as part of the application documentation. The application will also be accompanied by a specialist ecological report (Natura Impact Statement) which will assess the impact of the proposed development on any sensitive sites, such as European sites, including Rockabill Dalkey SAC which have the potential to be affected by the proposed development.

I believe that the information provided on the effect of geophysical and geotechnical exploratory investigations and ecological, wind, wave and current monitoring, in particular the prolonged use of borehole and core penetration drilling and the intensive use of underwater scanning of various types does not provide complete, precise and definitive information capable of removing all reasonable scientific doubt as to the effects of the works with reference to sandbank habitats, marine habitats, pelagic and benthic fauna, cetaceans and migratory birds. I believe that the granting of this foreshore licence could play a part in the degeneration of the sandbanks and the coast that they protect as has been outlined in studies on the South Dublin sandbanks:

Once formed, the banks' interaction with metocean conditions is sufficient to maintain their spatial and altitudinal configuration within certain limits... unless metocean conditions exceed a certain threshold... If this threshold is crossed then a rapid turnover of the system may ensue until a new littoral equilibrium is reached. Were the banks to be removed, not only would a reconfiguration of the tidal current occur and wave energy become more focused on the present protected coastline, but it is unlikely that the present metocean conditions would facilitate a regeneration of the banks ... at present it is not possible to say with certainty the degree of change or the threshold tolerances of these banks. Anthropogenic interference in littoral processes could also affect this.<sup>8</sup>

The potential environmental effects of the proposed site investigation works are set out in the Annexes submitted as part of the application, including Annex C EIA Screening and Environmental Report, Annex E Report to Inform Appropriate Assessment Screening and Annex F Applicant's Natura Impact Statement (NIS). The approach and methodology to Appropriate Assessment screening and preparation of the NIS are consistent with relevant Irish and EU guidance for compliance with the Habitats and Birds Directives. The method draws upon guidance produced by the Department of the Environment, Heritage and Local Government (2009, updated 2010), the Office of the Planning Regulator (2021) and the EC Methodological Guidance on Article 6(3) and 6(4) of the Habitats Directive (EC, 2021).

The geotechnical and geophysical surveys will not affect the stability of the sand banks or the coastline. The information collected during the proposed investigations will add to the body of data from previous surveys regarding the form and nature of the sandbanks to ensure the design of the wind farm is the most appropriate for the site. Subject to obtaining a MAC, the proposed windfarm will be the subject of an application for development consent in due course under the Maritime Area Planning Act, 2021 and its associated consent framework. An assessment of the alternatives and reasons for site selection will be provided as part of that application. The Environmental Impact Assessment Report, which will be submitted with the development consent application, will include a full and detailed assessment of potential impacts on marine physical processes including potential impacts on the sandbanks and the coastline.

## The Applicant's Response to Public Submission 10.

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<sup>8</sup> Wheeler, Andrew & Walshe, Jim & Sutton, Gerry. (2001). Seabed mapping and seafloor processes in the Kish, Burford, Bray and Fraser Banks area, South-Western Irish Sea. *Irish Geography*. 34. 194-211. 10.1080/00750770109555787



I am making an objection to the proposal by RWE, the German company to construct a wind farm on the Kish and Bray Banks, and the new application for a Foreshore Licence to carry out additional site investigation. The current application covers a significantly larger area. It extends in a west-east direction from the shore line to what appears to be the 12 nautical mile limit (22.2Km). The Irish government seems determined to ignore the internationally recognised importance of site selection as the key to avoiding negative environmental impacts of offshore wind. Instead, the government appears to be actively supporting international energy companies in their bids to lay claim to vast areas of Ireland's near shore waters, with a view to constructing enormous turbines on sites selected decades ago with no environmental constraints.

— Surely our coasts warrant environmental protection!

While this licence application is not an application to construct, it facilitates site investigation, when it is abundantly clear that near-shore sites on vulnerable habitats are totally unsuitable for such vast industrial developments, when obvious alternatives are available.

I therefore object to any licence being granted for any further exploration work to be carried out.

The Foreshore Licence Area is located solely within the 12 nautical mile limit. The site investigations (geophysical and geotechnical) which are proposed under the current Foreshore Licence application will be focussed on proposed turbine foundation locations, inter-array, and export cable routes to the selected landfall location(s) which are being refined in the course of the iterative design and assessment process. The locations of these investigations are shown in Drawings 2 and 3 of Annex B to the application documents respectively.

In accordance with good practice ecological monitoring, including mobile surveys and deployment of static acoustic monitoring devices is proposed within the proposed wind farm development boundary but also within the surrounding area to enable monitoring for potential far field effects. For this reason only the Foreshore Licence area has been increased, The ecological monitoring area is shown in Drawing No. 6 of Annex B.

The wind farm will require a development consent application to be submitted to An Bord Pleanála in accordance with the consent framework implemented under the Maritime Area Planning Act, 2021. The Environmental Impact Assessment Report which will be submitted with the development consent application will include a full and detailed assessment of potential impacts of the proposal and will include consideration of alternatives and the reasons for site selection.

The Applicant's Response to Public Submission 11.

1. Remaining Risks/Lack of Robust Scientific Data:

Granting of this license would contravene article 6(3) of Directive 92/43/EEC ('the Habitats Directive') by failing to contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works.

- Fish (particularly non-commercial variety), bird species and cetaceans in and around the site location and impact on the same has not been adequately assessed. This may result in a contravention of the Birds Directive (Directive 2009/147/EC) as well as the habitats directive (92/43/EEC).

RWE are of the opinion that all of the relevant data has been provided in the application documents to identify the likely significant effects of the proposed activities, removing all reasonable scientific doubt. Annex E of the application documents, Report to inform Appropriate Assessment Screening, Section 3 outlines the approach and methodology used to assess the effects of the proposed site investigation and monitoring activities on all European sites designated under the Habitats and Birds Directives within the zone of influence. The approach taken is consistent with relevant Irish and EU guidance published to ensure compliance and transparency of both the process and findings.

The conclusions of the screening assessment are presented in Tables 14 and 15 of the Report to inform Appropriate Assessment Screening. The closest SACs for fish species are located at Boyne River SAC (50 km to the north), and Slaney River SAC (95 km to the south), given the distance involved, the potential for effects on fish is limited to the pathways for migratory species from these SACs and potential for effects on prey species. The screening assessment of these effects is presented in paragraphs 6.2.29 to 6.2.35. Disturbance effects on fish species will only occur in close proximity to acoustic surveys and geotechnical works and the effects will be short term. Consequently the works are not predicted to result in any significant effects on the prey species for features of relevant SACs and nor is it expected that any significant effects would result on migratory species on passage. Fish species which are qualifying interests of the Boyne River and Slaney River SAC are therefore screened out of further assessment as are indirect effects on fish as prey species of higher trophic levels.

The Applicant's NIS, Annex F, includes an assessment of the likely significant effects on the conservation objectives of the Natura 2000 sites which were screened in. Based on the assessment of the proposed surveys alone and in-combination with other projects and plans, with mitigation measures in place, it can be concluded that no adverse effects on the integrity of the European sites will arise. Annex F also includes an Article 12 Assessment for cetaceans which are Annex IV species, i.e. European Protected Species (EPS) listed under Annex IV of the Habitats Directive, which are protected wherever they occur and which it is an offence to deliberately capture, kill, injure or disturb. With the proposed mitigations in place, as specified in Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (DAHG, 2014) the Article 12 Assessment concludes that no marine mammals whose range may overlap the survey area will be impacted by the proposed marine survey.

- Annex E, Paragraph 6.2.6 states:

“For the equipment used within the proposed works, SSS and MBES surveys, the frequency ranges vary between 190 and 420 kHz (MBES) and 300/900 kHz (SSS). All these systems fall outside the hearing threshold of all species (harbour porpoise has the highest frequency range of 200 Hz to 180 kHz (Southall et al., 2007)). Magnetometer surveys are passive systems and do not emit a signal or generate underwater noise. Therefore, it is considered that there would be no potential for injury or disturbance to any cetacean or fish species from these equipment.”

However, though the specific SSS and MBES used in this license may not effect marine mammals, Sub Bottom profiler (boomer, SBP) and UHR operate at a frequencies within the range of harbour porpoises, which may be performed over a 24 hour period. Additionally DP Vessels noise range is within the audible range of the Harbour Porpoise and no assessment of the risk, nor any mitigation measures are provided. Therefore there is insufficient evidence that the proposed works, individually, or in combination with other plans or projects, is unlikely to have a significant effect on any European Site/s subject to specific mitigation measures.

Annex E, Paragraph 6.2.7 confirms that SBP and UHRS produce sound at frequencies which may be audible to marine mammals. The effects of noise from these acoustic sources are further discussed in paragraphs 6.2.18 – 6.2.21 which concludes that the sound level associated with the proposed equipment (as presented in Table 2 of Annex E) may result in disturbance effects within a few hundred metres of the vessel. Therefore without mitigation measures in place there is the potential for localised disturbance of marine mammals. The likely effects of vessel noise are presented in paragraphs 6.2.22 – 6.2.25, which conclude that the noise associated with the proposed activities will be short term, temporary and intermittent and will not result in a significant increase in vessel traffic normally active in the area. No significant disturbance or displacement effects are expected for any marine mammal species due to the presence of vessels for site investigation, ecological monitoring or buoy deployment. However adopting the precautionary principle the effects of noise on harbour porpoise as a qualifying interest of the Rockabill to Dalkey SAC and indirect effects of noise on the prey species of harbour porpoise, have been screened in for further consideration, the results of which are presented in Annex F, the Applicant's NIS. The assessment in Annex F concludes that any noise impacts on cetaceans and their prey would be short term, temporary and intermittent. With mitigation measures in relation to geophysical acoustic surveys as specified in the DAHG Guidance (2014) the potential for disturbance to the species will be minimised and no impacts on the Conservation Objectives of the SAC are predicted.

Paragraph 6.2.15, Annex E presents an unacceptable argument for the use of SPL assessment of noise levels over the use of the current gold standards, SEL. The recent license application on Arklow Bank successfully calculated noise levels using SEL technique and there is no technical reason why this could not also be adopted by this developer. The availability of 'easy calculate figures' in the literature does not represent a reasonable excuse for not developing figures where they are lacking. This does not represent an appropriate assessment.

It is noted that it is theoretically possible to convert between  $SPL_{rms}$  and  $SEL_{cum}$ , however the conversion is based on a series of assumptions, which results in impact ranges which are so extremely conservative as to not provide anything meaningfully relevant to biological organisms. The primary assumptions are that the animal is stationary and facing towards the source of the noise for the entire duration of the impact (up to 24-hours of constant exposure). These assumptions are not realistic for the real-world application of the assessments, as individuals would not feasibly behave in this way and would in fact move away from the sound source (even if not explicitly showing a fleeing reaction). Additionally, studies (Au, 1993) have demonstrated that animals not directly facing the sound of source can be exposed to significantly quieter received sounds (3 – 10dB lower for an animal moving away compared to moving towards a noise source). Therefore, for the marine mammal assessments being discussed any numbers presented following a conversion between  $SPL_{rms}$  and  $SEL_{cum}$  would be considered to have no real world implications and are not valid for these assessments.

Additionally, when looking at examples of noise propagation modelling for drilling from other projects (for example East Anglia Two which modelled drilling for monopiles, which is louder and more impactful than that considered within this assessment), the ranges for Permanent Threshold Shift (PTS) and Temporary Threshold Shift (TTS) were concluded to be <100 m for a fleeing animal. One hundred metres is the lowest resolution possible for the model and it is therefore likely that the realistic impact ranges are smaller than this. This modelling for East Anglia Two was based on a much more intensive noise source, for drilling of large monopile foundations rather than small scale coring, and it can be assumed that the maximum potential impact range for the Dublin Array survey works will be further reduced from this number. Therefore, there is no risk of any auditory injury to marine mammals from the proposed works at Dublin Array.

Paragraph 6.2.15 Annex E states that:

“While the sound levels from drilling may result in some degree of localised disturbance to marine mammals any disturbance would be expected to be small-scale and short-term with surveys lasting approximately 2 -3 months, with no effects lasting beyond the period of the works.”

Even if not permanently deafening these creatures, the prolonged noise created by the proposed license, over the license period, will inevitably force them to avoid the wider area (250 km considered as a buffer for cetaceans, as stated 3.3.6 Annex E) and reduce their feeding grounds. Given that much of this work is occurring both in and around Rockabill to Dalkey Island SAC, this will have a knock-on effect on their populations and, as a result, the status of their SAC. Combining this with other adjacent projects along the coast, this could have a really large effect on local populations.

As noted in Annex E (paragraphs 6.2.15 et seq), there is no risk of hearing damage to marine mammals from the proposed Dublin Array site investigation works and any disturbance will occur over a small area, in proximity to the survey vessel undertaking the work. As such any disturbance in any one area will be limited to a period of a few hours as the survey vessel undertakes work in that area, with impacts from the works not occurring within the full licensed area for the full duration of the works, The 250 km buffer represents the area of search for SACs for which cetaceans are qualifying interests and is defined considering the scale of movement of individuals, i.e. an individual of an SAC population within the buffer zone could potentially move to within the area of the survey works. Mitigation measures specified in DAHG, 2014 will be followed at all times, with monitoring by a qualified and experienced Marine Mammal Observer prior to start-up of noise sources, followed by the use of the 'soft-start' procedure which will ensure that no marine mammal is in close proximity to the vessel when the noise commences.

Paragraph 6.2.16 of Annex E states that:

"Modelling for sound levels from drilling works for offshore wind farms (e.g. East Anglia Two Offshore Wind Farm) identified that the threshold for PTS and TTS onset for all marine mammal hearing groups would be less than 100 m from a drilling vessel."

Yet no reference to the proposed modelling is provided and it appears that much of the assessment is based on this figure, the basis on which it was calculated remains unknown. The recent license application on Arklow Bank (FS007339) indicated a TTS for high frequency cetaceans (incl. phocoena phocoena aka Harbour porpoise) of 757m for vessels using DP (as is proposed in this license application) and 607m for vibro-coring. Therefore, given the lack of evidence presented in this application fails to contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works and granting of this license would contravene article 6(3) of Directive 92/43/EEC.

The East Anglia Two modelling which is referenced in Annex E of the application documents can be found here:

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010078/EN010078-001487-6.3.11.4%20EA2%20ES%20Appendix%2011.4%20Underwater%20Noise%20Assessment.pdf>.

As noted above conversion between  $SPL_{rms}$  and  $SEL_{cum}$  results in impact ranges which are so extremely conservative as to not provide anything meaningfully relevant for assessment purposes. RWE have therefore, based our assessment on similar project modelling such as East Anglia Two and remain confident in the conclusions drawn and stated within the report, see response to similar point above.

It should be noted that the Article 12 Assessment presented in Appendix 4 of Arklow Bank's NIS concludes that the risk of injury or disturbance to all marine mammal species would be negligible from the geotechnical survey activities and that, in this respect, mitigation is not

considered necessary. Despite this conclusion Arklow Bank, like Dublin Array, have committed to follow DAHG, 2014 to follow adopt best practice.

Insufficient Evidence or Mitigation Measures:

There is insufficient evidence that the proposed works, individually, or in combination with other plans or projects, is unlikely to have a significant effect on any European Site/s subject to specific mitigation measures.

- AA screening information in relation to matters including the bird species studied, the impact of underwater noise on bird species, a lack of clarity in relation to the proximity criteria and zone of influence used in screening sites and a failure to present evidence to support conclusions in relation to in combination effects.

RWE has provided robust information in the application documentation to enable appropriate assessment screening of adverse effects on the integrity of any Natura 2000 sites of the project alone and in combination with other plans and projects to be undertaken.

The approach to screening, including defining of the zone of influence for each receptor group, is outlined in Section 3 of the Report to Inform Appropriate Assessment Screening. The approach is consistent with relevant Irish and EU guidance which has been published to ensure compliance with both the Habitats Directive (92/43/EEC) and the Birds Directive (79/409/EEC) and transparency of both the process followed and the findings which are reached.

The effects of underwater noise on bird species are assessed within Section 6.2 and Section 6.3 of the Report to Inform Appropriate Assessment Screening. In-combination effects are assessed in Section 7.4 of the same.

- Likely significant effects in combination with other plans or projects were not assessed, including combined effects of past investigations in the area.

As detailed in Section 7.4 of the Report to Inform Appropriate Assessment a search of publicly available information was undertaken to identify other plans and projects which may result in adverse effects on the integrity of any Natura 2000 sites in combination with the site investigation and monitoring activities proposed under this Licence application. Sources included the Department of Housing, Local Government and Heritage Foreshore Licence application database and the Environmental Protection Agency Dumping at Sea Register. The search was undertaken for all projects within a 30 km radius of the proposed survey area. Given the localised and temporary nature of the proposed survey works this was considered precautionary. The projects considered include those applications but not yet determined and existing licences which have been granted but the associated activities not yet completed.

- The license application indicate that 'The exact locations will be determined prior to undertaking the site investigation works' however, no detailed grounds on which these determinations will be made has been outlined, therefore no appropriate determination can be made on whether this will

adversely affect the integrity of local sites.

A comprehensive analysis of the potential impacts of the survey which could affect the integrity of sites has been undertaken as documented in Section 6 of Annex E, Report to Inform Appropriate Assessment Screening and Section 4 of Annex F, The Applicant's NIS. Whilst the exact sampling locations have not been determined at this time, their final locations will be selected to avoid any contact with seabed features which are sensitive to seabed disturbance or to direct contact from equipment. Sampling sites will be chosen with reference to geophysical and environmental data. Benthic grab sampling will be preceded by video and camera stills imagery. Sampling locations will then be micro-sited to avoid ecological impacts, specifically with reference to the qualifying interests of designated sites and the associated conservation objectives.

Granting of benthic grabs/trawls, without preceding drop down camera, ROV or SCUBA dives of the site is poor international practice and may result in the damage to sensitive habitats

As stated in the Supporting Information document, 2.4.13, subtidal benthic monitoring will include video and camera stills imagery prior to undertaking grab sampling. In addition to the use of video and camera at each site, the location of sites will be informed by analysis of the geophysical data, in line with guidance and best practice this will provide a robust and informed sampling array which will avoid damage to sensitive habitats.

The additional mitigation measures "proposed to allow for the presence of harbour porpoise calves during the months of May to September" of "sound producing activities shall not commence until at least 45 minutes have elapsed with no marine mammals detected within the Monitored Zone by the MMO" is totally inadequate and as such a likely significant risk remains in place and approval of this license would constitute a contravention to the habitats directive.

RWE have committed to mitigation proposed for marine mammals in accordance with the relevant Irish guidance (DAHG, 2014), as agreed with NPWS. A qualified and experienced Marine Mammal Observer will monitor for the presence of marine mammals before the commencement of sound producing activities (pre-watch), during ramp up procedures and following breaks in sound output, as defined in DAHG, 2014. Sound producing activities will not commence until the monitored zone, as defined has been clear for the period required under the guidelines. The purpose of the pre-watch is to monitor for the presence of marine mammals within an area of 1,000m radial distance from the location of the sound source prior to commencement of sound producing activity. DAHG, 2014 guidance requires a pre-watch period of at least 30 minutes. The extended pre-watch, during the months of May to September inclusive, was requested by NPWS in relation to survey works proposed under Foreshore Licence FS007029. If calves have been spotted in the monitored zone the sound-producing activity shall not commence until at least 45 minutes have elapsed with no marine mammals detected within the monitored zone by the Marine Mammal Observer. The delay recognises the slower swim speed of mothers with calves compared to adults alone and allows additional monitoring time to ensure they have left the area of possible disturbance.

“SAM deployment will take approximately two weeks during mid 2022” (I assume during the geophysical survey), “independent of other surveys, the equipment will remain on site for the duration of the Foreshore Licence to provide a long term data set of pre construction monitoring of marine mammals;” Why not deploy the SAM in advance of the other surveys to ensure that Harbour Porpoise and other marine mammals are not in the Zone of Influence (250 km considered as a buffer for cetaceans, as stated 3.3.6 Annex E) prior to starting the geophysical and geotechnical works. This could not only act as a further mitigation measure but also provide scientific data (which should be published open access) on the effects of acoustic disturbance in and on sensitive SACs whose qualifying interests are Harbour Porpoises.

As stated above the 250 km buffer referred to represents the area of search for SACs for which cetaceans are qualifying interests for the purposes of the Report to Inform Appropriate Assessment Screening. It is not representative of the area in which marine mammal species will experience effects from the proposed works.

Without mitigation in place the Report to Inform Appropriate Assessment screening concludes that there is a possibility of marine mammals in close proximity to survey locations experiencing disturbance effects. RWE have committed to implementing mitigation as advised in DAHG, 2014. The Applicant's NIS, Annex F, concludes with mitigation in place that there will be no significant effects on any cetacean species nor adverse effects on the integrity of any European site. No further mitigation or monitoring is therefore required.

With regard to mitigation measures in place to inhibit PTS in marine mammals, no mention of the use of passive acoustic monitoring (PAM) has been mentioned, which would be required for the ‘qualified observer’ to ensure that no marine mammals were present within the zone of inhibition prior to initiating noise creating works. An observer, no matter how qualified will likely miss sensitive marine mammals in the vicinity without the use of this apparatus and as such a likely significant risk remains in place.

RWE have committed to mitigation proposed for marine mammals in accordance with the appropriate Irish guidance (DAHG, 2014). DAHG, 2014 states that while the use of PAM in Ireland is encouraged as a helpful and beneficial tool for detecting and monitoring certain cetacean species, the Department does not believe it is sufficiently developed to be regarded as the primary or sole monitoring approach for risk management purposes. Therefore whilst PAM is likely to be used by the survey company appointed to undertake the works in addition to marine mammal observers -conservatively the assessments as documented in the NIS submitted with the application have not relied on the use of PAM as mitigation.

According to the Natura 2000 statement, “the Conservation Objectives to maintain the favourable conservation condition of Harbour Porpoise (*Phocoena phocoena*) [1351] within the Rockabill to Dalkey Island SAC, are defined by the following list of attributes and targets:

- o Species range within the site should not be restricted by artificial barriers to site use; and



o Human activities should occur at levels that do not adversely affect the harbour porpoise community at the site.”

Both as a result of noise disturbance and physical destruction of reefs, there is admittedly by phase 1 assessment in the Natura 2000 Statement presented, a “potential for adverse effects” on the qualifying interests (QIs) of the SAC.

As outlined in the Natura 2000 statement presented:

“With regards the harbour porpoise feature and the temporary overlap with the calving period of harbour porpoise (May to August) within Rockabill to Dalkey SAC, the noise associated with the proposed works described in Section 6.2 and 6.3 of Annex E: Report to Inform AA Screening have the potential for localised disturbance and have potential to disturb and/or displace fish prey items of all cetacean and pinniped species resulting in localised indirect effects”

Section 4.2.6 (p. 60) of the Natura 2000 statement states that “given that any noise impacts on cetaceans and their prey would be short term, temporary and intermittent.... potential for disturbance to the species will be minimised and no impacts on the Conservation Objectives of the SAC are predicted.” I do not accept this statement and would present that the noise disturbance and inhibition of QI species and their food source represents a “restriction by artificial barrier” and is contraindicated by the conservation objectives of the SAC.

In accordance with established best practice and case law Appropriate Assessment Screening is undertaken without the inclusion of mitigation measures. An Appropriate Assessment is required where the Appropriate Assessment screening stage determines that the proposed works are likely to have a significant effect on a Natura 2000 site with respect to its Conservation Objectives. The Appropriate Assessment considers whether the proposed works (either alone or in-combination with other projects or plans), will result in an adverse effect on the integrity of a European site. Where adverse effects on the integrity of a site are identified or where an adverse effect is uncertain, mitigation will be required so as to avoid such adverse effect or eliminate such uncertainty.

The statement from the NIS included in the application documentation reproduced in the correspondent's observations are from Section 4.2 of that document where the potential for adverse effects on the integrity of the Rockabill to Dalkey Island SAC without mitigation are set out. Section 4.4 of the same document describes the mitigation measures which are proposed and the conclusions of the assessment with mitigation in place.

As stated in the supporting marine information for the Rockabill to Dalkey Island SAC<sup>9</sup>, artificial barriers refer to “proposed activities or operations that will result in the permanent exclusion of harbour porpoise from part of its range within the site, or will permanently prevent access for the species to suitable habitat therein. It does not refer to short-term or temporary restriction of access or range”. As noted in Annex E (paragraphs 6.2.15 et seq), any disturbance associated with the proposed works which are the subject of this Foreshore Licence application will occur over a small area, approximately 100m from the survey vessel undertaking the work. As such any disturbance in any one area will be limited to a period of a few days as the survey vessel undertakes work in that area. Therefore there will be no barrier effect, as defined by the supporting marine information for the Rockabill to Dalkey Island SAC. Neither will the harbour porpoise community at the site be adversely affected as with mitigation in place no individuals will be impacted by the surveys.

#### Unregulated Development Environment:

Granting of this license would contravene article 6(3) of the Habitats Directive by granting a consent to a project which leaves the developer free to determine subsequently certain parameters without first having made certain that the development consent granted establishes conditions that are strict enough to guarantee that those parameters will not adversely affect the integrity of the site.

- The development consent, if granted, should establish conditions that are strict enough to guarantee that those parameters will not adversely affect the integrity of the site. This is not evident from this application.

This application is for a Foreshore Licence for site investigations. The Licence would not leave RWE free to determine the parameters of the investigations. Firstly, the Report to Inform Appropriate Assessment Screening and the NIS submitted with the application describe all of the aspects of the proposed site investigations likely to have a significant effect on a European site and subject those aspects to screening and, where necessary, assessment. Secondly, any Foreshore Licence will be granted subject to “Specific Conditions” which will be assessed by or on behalf of the Minister prior to the determination to grant the Licence. Those Specific Conditions will not leave RWE free to determine the parameters of the investigations beyond the parameters already assessed. The application describes with a high degree of specificity the range of samples (minimum/maximum) and activities to be undertaken. The sampling locations will be within the areas assessed and the effects arising will be no greater than those assessed. Sampling locations will be selected to avoid any contact with seabed features which are sensitive to seabed disturbance or to direct contact from equipment. Sampling sites will be chosen with reference to geophysical and environmental data.

The number and type of benthic grabs and trawls is unclear,  
o in some instances only grabs are mentioned,  
o in some instances biological trawls are mentioned.  
o In some areas of the application 30 grabs are mentioned,  
o in other areas 90 grab samples are mentioned,

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<sup>9</sup> [https://www.npws.ie/sites/default/files/publications/pdf/003000\\_Rockabill%20to%20Dalkey%20Island%20SAC%20Marine%20Supporting%20Doc\\_V1.pdf](https://www.npws.ie/sites/default/files/publications/pdf/003000_Rockabill%20to%20Dalkey%20Island%20SAC%20Marine%20Supporting%20Doc_V1.pdf)

o yet other areas (Annex E, p.19) states annual sampling for 3 years, including 90 grabs and 90 epibenthic trawls are mentioned  
o yet other areas (license application) 1-2 weeks/year for up to 3 years is mentioned, which if only a single grab per period was carried out would result in 78 grabs. The license in this regard is unclear and as such the department cannot effectively ascertain if there is a likely significant impact on Natura 2000 sites and as such, represents a contravention of the habitats directive.

RWE has included method statements within Section 2 of the Supporting Information Report and Section 4.2 of the Report to Inform Appropriate Assessment Screening, Annex E which provide a description of the proposed survey works. In all cases the maximum number of samples required have been stated to ensure a robust assessment is undertaken; subtidal benthic monitoring will involve video and camera stills imagery and grab sampling using a Van Veen or Day grab at 90 locations, together with up to 90 epibenthic trawls. Monitoring is proposed to be undertaken annually for two to three years prior to commencement of the construction of the wind farm and would comprise up to 90 grab samples and 90 epibenthic trawls in each annual campaign. The reference to grab sampling at 30 locations within the Supporting Information Section 1.5 relates to the previous Foreshore Licence Application (FS007029) and is included for information only.

The license application area is large relative to the size of the area wherein specifically described activities and monitoring are to take place, particularly to the south. It is unclear from the application why the proposed area is so large and if unspecified activities such as benthic grabs/trawls are to be carried out in the greater license area. If this is the case then further cumulative impacts should be assessed, as the area has recently undergone multiple benthic grab surveys. As this cannot be ascertained for the enclosed documents the department cannot effectively ascertain if there is a likely significant impact on Natura.

The requirements for site investigation and ecological monitoring are outlined in Section 1.3 of the Supporting Information Report and the areas in which each activity is proposed to take place is illustrated in the suite of drawings, submitted as Annex B of the application documents. The geotechnical and geophysical surveys are required to provide further information on ground conditions and seabed features across the site to inform detailed foundation and cable burial design and installation methodologies. As such these surveys are focussed on the array area and along the proposed cables routes and landfall locations. The ecological monitoring is proposed to collate further data on the pre-construction baseline against which to monitor change in the environment. This activity is being proposed in accordance with Guidance on Marine Baseline Ecological Assessments and Monitoring Activities for Offshore Renewable Energy Projects (DCCAE, 2018) and best practice. Sampling will be located within the proposed array area, along the export cable route/s and across the extent of one tidal excursion to provide data to monitor potential of far-field effects. The in-combination screening and assessment considered all projects undertaking similar activities across the full extent of the Foreshore Licence area, together with a 30km buffer. The extent of this buffer is considered precautionary given the spatial extent of any potential impacts which could arise from the proposed activities.

The license application states

“The inter-tidal and sub-tidal geotechnical sampling locations will be selected after review of the geophysical and environmental data collected during the 2020 Site Investigation campaign. The data will be reviewed for the presence of potential ecological features such as subtidal geogenic reef. Sampling locations will then be micro-sited where necessary to avoid ecological (as well as archaeological) impacts.”

This represents a likely significant risk that is not clearly defined at the licensing stage and it is left to the developer to decide what constitutes an ecological feature, such as subtidal geogenic or subtidal biogenic reef. As such the license fails to contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works. Approval of such license would contravene article 6(3) of Directive 92/43/EEC ('the Habitats Directive').

The approach to selection of sampling locations using best available information provides a robust and informed sampling strategy in line with relevant guidance and best practice for surveys where features sensitive to the activity may be present. The sampling locations will be within the areas assessed and the effects arising will be no greater than those assessed. Sampling locations will be selected to avoid any contact with seabed features which are sensitive to seabed disturbance or to direct contact from equipment. Sampling sites will be chosen with reference to geophysical and environmental data.

The license application states

“To prevent damage to saltmarsh and sand dune habitat all access to the Poolbeg intertidal by track machine will be supervised by an ecologist to ensure these sensitive areas are avoided.”

This represents a likely significant risk that is not clearly defined at the licensing stage and it is left to the developer (or developer employed ecologist) to decide what constitutes a 'sensitive area'. As such the license fails to contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works. Approval of such license would contravene article 6(3) of Directive 92/43/EEC ('the Habitats Directive').

In accordance with the application as submitted, a grant of Licence will commit RWE to appointing an ecologist to supervise the works within the intertidal areas. The ecologist will undertake a pre-commencement walk-over survey to identify sensitive habitats. Access points and sampling locations will be micro-sited to avoid impacts on sensitive habitats. Reinstatement of the intertidal habitat will be carried out to pre-survey condition using standard practice. Pre application consultation with NPWS confirmed the appropriateness of mitigation measures proposed.

The license application states that in carrying out intertidal works at South Dublin Bay and River Tolka Estuary SPA that “an ecologist will be employed to ensure that disturbance is minimised”. Not alone is this an admission of disturbance but it represents a likely significant risk that is not clearly defined at the licensing stage and it is left to the developer (or developer employed ecologist) to decide what constitutes damage to site integrity.

• The license states that:

“If roosting birds are present on the shore during intertidal works, the nearby sample stations will be postponed until the birds depart, without provocation.”

It is not clearly defined, at what stage resumption of work will proceed, e.g. after the roosting birds have departed, after the chicks have departed. As such the license fails to contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works. Approval of such license would contravene article 6(3) of Directive 92/43/EEC (‘the Habitats Directive’).

There is a potential for localised disturbance of roosting birds within the intertidal areas should the works overlap temporally with their presence. Whilst the level of disturbance is not likely to lead to a significant effect on the conservation objectives of the South Dublin Bay and River Tolka SPA, such disturbance is to be avoided under the Birds Directive and the Wildlife Act 1976, as amended. Accordingly, and in accordance with the application as submitted, a Licence will be granted subject to conditions requiring the following avoidance measures::

- The site investigation at Poolbeg will take place outside the period 1<sup>st</sup> Sept – 31<sup>st</sup> Mar) to avoid disturbance to over-wintering bird Qualifying Interests of SPA;
- Activities will not be undertaken in close proximity to drift lines which represent an important food source for bird species;
- An ecologist will be employed to identify whether roosting birds are present on the shore, and if roosting birds are present during intertidal works, the nearby sample stations shall be postponed until all the birds have departed, without provocation;
- The ecologist will undertake a pre-commencement walk-over survey to identify any sensitive habitats, such as *Zostera noltii*, marram grass and annual vegetation drift lines, and to advise RWE on any potential access points to the intertidal area for plant and machinery which would avoid any such sensitive habitats;
- If no such access route can be identified alternative options include lowering of equipment by crane from the Shelly Banks Road, construction of temporary bridges which span the sensitive habitat without making contact with it or the use of a barge to bring the equipment to the location by sea.

Pre application consultation with NPWS confirmed the appropriateness of these avoidance measures in achieving the necessary scientific certainty as to the absence of significant effects on the European site, and in excluding significant disturbance of any of the bird species concerned.

The license states that:

“If for any reason access by sea to the near-shore or intertidal sample locations is not possible, any temporary access arrangements or structures that are put in place to allow machinery access to the beach area will be prepared in consultation with an ecologist and the site should be fully reinstated post works.”

It is not clearly defined. Though this may seem like a minor point, access risks should be examined and outlined in the license application and should be appropriately assessed. No such examination appears to be included in the application. As such the license fails to contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works. Approval of such license would contravene article 6(3) of Directive 92/43/EEC ('the Habitats Directive').

RWE have committed to appointing an ecologist to supervise the works, including access arrangements to the intertidal area at Poolbeg. The ecologist will undertake a pre-commencement walk-over survey to identify sensitive habitats and access points will be selected to avoid impacts on sensitive habitats. If no access route can be identified which avoids these areas, alternative arrangements include lowering equipment by crane from the Shelly Banks Road, construction of temporary bridges which span the sensitive habitat without making contact with it or the use of a barge to bring the equipment to the location by sea.

The license states that:

"Reinstatement of the intertidal habitat will be carried out to pre-survey conditions. Spoil from boreholes would be contained and removed off site."

It is not clearly defined, exactly how boreholes will be reinstated to their pre-survey condition, while spoils are being removed off site. I assume that material removed from bore holes will be mixed, containing both surface material and deeper sediments. Deeper sediments can contain heavy metals hydrocarbons, nutrients and other potential contaminants. The developer does not appear to have defined how exactly they plan to deal with this issue to avoid contamination of local areas and species. As such the license fails to contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works. Approval of such license would contravene article 6(3) of Directive 92/43/EEC ('the Habitats Directive').

A borehole is a method of drilling into the ground or seabed to recover samples and enable downhole geotechnical testing to be complete. The intertidal boreholes will have a maximum diameter of 10 cms and will be drilled to depth not exceeding 45m. Samples will be removed from within the drill string for detailed offsite analysis. Once the samples have been removed the nearshore boreholes would either grouted to within 2m of surface of the base of mobile sediment (typically using a 2:1 bentonite cement mix) and/or be backfilled with the naturally occurring surrounding sediment. Bentonite is a non-toxic, inert, natural clay mineral (<63 µm particle diameter) that can be diluted with water and is used extensively in the marine environment. A small amount of spoil may be generated from the process and if so this will be recovered and removed from site for disposal.

Annex E: Report to inform Appropriate Assessment Screening (4.1.3) states that:

“The indicative locations of the survey areas which form the scope of the proposed works are shown in Figure 3 to Figure 7. The final geotechnical and ecological sampling locations and buoy deployment positions will be selected after a review of the most up to date geophysical data available in advance of selection of the sampling stations. The data will be reviewed for the presence of anomalies of potential anthropological origin and potential for ecological features such as subtidal reef. Locations will be micro-sited where necessary to avoid archaeological or ecological impacts. As such, no figure is provided for the benthic sampling locations, but taking a precautionary approach it has been assumed that samples could be taken anywhere across the Foreshore Licence application area.”

The license fails to contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works. Approval of such license would contravene article 6(3) of Directive 92/43/EEC ('the Habitats Directive').

The approach to selection of sampling locations using best available information at the time of survey provides a robust and informed sampling strategy in line with relevant guidance and best practice for surveys intended to avoid targeting habitats or features which would be sensitive to the effects of the survey.

Choice of benthic grab methods is not clear and is of utmost importance in attaining correct data for the next stage of the appropriate assessment of the proposed wind park. Biological trawls are considerably more beneficial in some instances and a clear indication of what will and will not be discovered by these methods should be outlined.

RWE undertook benthic ecology surveys of the site in 2021 to provide further information to inform the assessments which will be submitted as part of the Development Consent application for the wind farm. The ecological monitoring surveys which are proposed under this Foreshore Licence application are for the purposes of pre-construction monitoring against which to measure any change during the construction of the wind farm. The maximum scope of the ecological monitoring survey has been defined within the Supporting Information Report Section 2 and within the Report to Inform AA screening, Section 4.1. The scope of monitoring surveys has been defined in accordance with Guidance on Marine Baseline Ecological Assessments and Monitoring Activities for Offshore Renewable Energy Projects (DCCAE, 2018). A broad suite of activities is included within the application and the final scope of ecological monitoring will be agreed in consultation with the appropriate statutory agency.

#### Cumulative Impact:

The current license application appropriate assessment fails to take into account properly or at all the cumulation of the impact of the project with the impact of other existing and/or approved projects contrary to article 4(3) and Annex III. Granting of this license would be a breach of article 4(4) by failing to ensure that the project was properly described in terms of cumulation of impacts.

- The cumulative impact of the granting of multiple licenses in the area for surveys such as these will have a cumulative impact which has not been appropriately assessed. As such, granting of this license would constitute a breach of the habitats directive.
- No cumulative assessment has been made of the very real possibility that two developers could be conducting similar site survey work including boreholes and cone penetration tests in the same area at the same time.
- In combination effects the applicant only considers synchronous events and synchronous licenses/leases and do not give any consideration to prolonged repetitive surveying, dredging and noise in the area, impacted by past licenses/surveys, such as their own previous surveys as recently as 2019. In fact, it is not made clear in the application why repeated benthic grabs/trawls is required and may cause significant impact to benthic communities.

Section 7.4 of the Report to Inform Appropriate Assessment Screening provides a screening of projects and plans within a 30 km buffer of the Foreshore Licence area. Section 4.3 of the RWE's NIS provides the assessment for those projects screened in for combination assessment. Using the precautionary approach projects were screened in for further assessment where there was, in the absence of definitive timings, potential for overlap both temporally and spatially with the surveys subject to this application. Consideration was given to the likelihood for all projects to be undertaken sequentially or simultaneously. Further to these assessments, it was concluded that there will be no potential for adverse impacts on the integrity of the European sites concerned as a result of the project alone or in combination with other plans or projects.

The Natura Impact Assessment of the surveys which were the subject of an earlier Foreshore Licence, FS007029 concluded that there was no potential for adverse effects on the integrity of the concerned European Sites to arise as a result of the proposed survey activities. The surveys which have been undertaken in 2021 under Foreshore Licence FS007029 include geophysical surveys, ecological grab sampling and the deployment of buoys for the collection of wind, wave and current data. No further works under FS007029 will be undertaken and therefore there is no potential for temporal overlap with the surveys proposed under this current licence application.

The observations raised regarding "Article 4(3) and Annex III" and an alleged breach of "Article 4(4)" are not fully understood as those references do not appear to be to the Habitats Directive. Insofar as the reference is to the EIA Directive, the site investigations are not a project type to which that Directive applies.

#### The Applicant's Response to submission from Killiney Community Council.

We refer to the RWE Renewables Site Investigations for the proposed Dublin Array **Off**shore Wind Farm Foreshore Licence.



Specifically, we refer to the Geophysical and Technical specifications. These are indicative of site preparation for infrastructural works on the Kish and Bray banks, within an area of 1,130 square kilometres within the Killiney Bay area.

What is lacking in this application for this Foreshore Licence:

1. Reference to historic applications for a single proposed project, and concomitant historic failures in winning a Foreshore Licence, with reference to making provision to rectify these before a new Foreshore Licence process can proceed.
2. Consideration of alternative sites: In an application for a Foreshore Licence, it is necessary for the applicant to consider alternatives. (This applies to both Lease and Licence applications.)
3. A visual representation of the proposed turbines in Killiney Bay. We cite the Offshore Energy Strategic Environmental Assessment Review and Update of Seascape and Visual Buffer study for Offshore Wind farms Final Report for Hartley Anderson March 2020. Visual impact studies consider impingement on shorelines to be critically important, especially adjacent to high amenity tourism beaches.

This Foreshore Licence application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable route to shore and associated infrastructure only. In the absence of any risk of adverse effects on the integrity of a European site, there is no obligation to consider alternatives to the proposed Foreshore Licence application.

Subject to obtaining a MAC, the proposed windfarm will be the subject of an application for Development Consent under the Maritime Area Planning Act, 2021 and its associated consent framework. An assessment of the alternatives and reasons for site selection will form part of the EIA and Appropriate Assessment for that application,, which will also include an assessment of the potential impact the wind farm may have on a range of receptors including seascape and visual amenity.

The proposed wind farm boundary has not been amended by this licence application, and is co-incident with the geotechnical survey boundary as shown in Drawing 3 of Annex B to the Foreshore Licence application documents. In accordance with good practice ecological monitoring, including mobile surveys and deployment of static acoustic monitoring devices is proposed within the proposed wind farm development boundary but also within the surrounding area to enable monitoring for potential far field effects and therefore the Foreshore Licence area extends beyond the proposed development area to the north, south and east.

In the context of these<sup>10</sup> protections, we examine the proposed objective to install 40-61 turbines, 240 to 310 metres high, on the Bray and Kish Banks.

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<sup>10</sup> UNESCO Dublin Bay Biosphere Reserve; Rockabill to Dalkey SAC; Amenity centre for watersports.

Analysis of the extensive detail presented in this RWE Renewables Ireland Geophysical site investigation, reveals an intention to construct the platform for the proposed turbines on one inshore site, the Kish and Bray Sandbanks, 9 km from Killiney Bay. This is not a site evaluation. This is preparation for site construction. The term "Ipse Dixit" is appropriate in this case: the assertion is, "this is just how it is". This de facto sense of ownership by RWE Renewables of these sandbanks is controlled by opting out of alternative arguments: declaring that this issue is intrinsic, and not open to change. This logical fallacy uses an assertion that the Kish Bank and Bray Bank square, as shown on Dublin Array site maps, is the only site available in Killiney Bay. We look at the alternative choices:

Should the Array of this dimension be installed 9 km distant from Killiney Beach?

Should 40-61 turbines, 240 to 310 metres high be allowed to gate, or fence **off**, the horizon?

Should the Array be installed further out, at 22 km?

Should the Array consider more innovative technologies such as 'Floating turbines'?

This application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable route to shore and associated infrastructure. See previous response with respect to any future application for development consent, subject to securing a MAC.

## Navigation Issues

We believe that the information we receive from RWE Renewables does not 'provide complete, precise and **definitive** information capable of removing all reasonable **scientific** doubt as to the **effects** of the works' with reference to the selection of a 22 km distance for the installation of **floating** turbines.

We note the proximity of the Array to a **confluence** of shipping lanes, as described in 4.6 Navigation, Document Number 003747593-01:

The busiest of these shipping lanes originate and depart from Dublin Port, located to the North West of the survey area. Dublin Port caters for freight, passenger and cruise liners. In 2019 Dublin Port processed 38,100,000 tonnes of freight together with 1.949 million passengers and 158 cruise ships. The total number of ship arrivals was 7,898. Although the distance between Dublin Port and Holyhead is 113 km, there is capacity for the construction of **floating** turbines at, or within, the 22 km distance from shore recommended by the EU.

We note that in this context, the selection of an alternative site for **floating** turbines at, or within, the distance from shore of 22 km, must be carried out. This is a condition for an application for a Foreshore Licence: that it is necessary for the applicant to consider an alternative site. (This applies to both Lease and Licence applications.)

This application is for a Foreshore Licence for ecological monitoring and site investigation works only. In the absence of any risk of adverse effects on the integrity of a European site, there is no obligation to consider alternatives to the proposed Foreshore Licence application.

## Geotechnical Survey Issues

We believe that the information provided does not 'provide complete, precise and definitive information capable of removing all reasonable scientific doubt as to the effects of the works' with reference to:

1. The integrity of the Kish and Bray Banks.
2. The term 'pre-construction survey' or 'Array area' determines and reinforces and confirms the premise that this will be the area identified for construction, regardless of distance from shore, height of the turbines or ecological effect.
3. The effects of the works proposed, in connection with the site investigations to be employed in the installation methodology of this Geotechnical Survey, far exceed the limits of previous surveys. Therefore we request an alternative model of the Site Investigations for the proposed Dublin Array Offshore Wind Farm.

We question the purpose of the Geotechnical Survey of site Investigations for the proposed Dublin Array Offshore Wind Farm. Although RWE Renewables state there is a necessity to examine foundation design, the size and installation methodology and to finalise cable route and landfall design and installation methodology, we consider this work as effective preparation for construction.

The site investigations (geophysical and geotechnical) which are proposed in the current Foreshore Licence application are for the purpose of further investigating the stability of soils and sediments in the area of the proposed turbine foundation locations, inter-array, and export cable routes to the selected landfall location(s) to inform the iterative design and assessment process. The proposed boundary of the wind farm area has not changed.

The "pre-construction surveys" the correspondent refers to are ecological monitoring surveys, including mobile surveys and deployment of static acoustic monitoring devices. Where ecological monitoring is required it is best practice to acquire a number of years of baseline data and for this reason RWE are seeking permission to commence ecological monitoring, if required, in 2023. Monitoring is proposed within the proposed wind farm development boundary but also within the surrounding area, as shown in the drawings provided in Annex B of the application documents to enable monitoring for potential far field effects. For this reason only the Foreshore Licence area has been increased.

The proposed surveys and site investigations will have no impact upon the integrity of the Kish and Bray Banks.

The proposed surveys and site investigations are independent of any potential construction or operation of a wind farm, which is subject to obtaining a MAC and securing development permission in accordance with the Maritime Area Planning Act, 2021 and its associated consent framework.

RWE Renewables Site Investigations for the proposed Dublin Array Offshore Wind Farm far exceed the scope of previous surveys of the Kish and Bray Banks, which adhered to a limited definition of such investigations. RWE Renewables' description of the machinery required for

foundation design and installation methodology far exceed the limits of previous surveys, and do not appear to have respected the extensive and relevant information already collected about the formation and ecology of these sandbanks, and their role in the mitigation of coastal erosion.

The proposed wind farm boundary has not been amended and is co-incident with the geotechnical survey boundary as shown in Drawing 3 of Annex B to the application documents. In accordance with good practice ecological monitoring, including mobile surveys and deployment of static acoustic monitoring devices, they are not limited to within the proposed wind farm development boundary but also within the surrounding area to enable monitoring for potential far field effects and therefore the Foreshore Licence area extends beyond the proposed development area to the north, south and east.

Wind farm design is an iterative process informed both by engineering and environmental studies and surveys. A geophysical survey of the proposed development, including ecological sampling, was undertaken in 2021. Data from that campaign has been incorporated into our understanding of the site and the wind farm design development process. The site investigations, including geophysical and geotechnical surveys, which are the subject of this Foreshore Licence application are the next stage in this process and will provide more detailed information based on the preferred layout and design parameters which are emerging. The proposed surveys will have no impact upon the integrity of the Kish and Bray Banks nor upon coastal erosion. The proposed windfarm will be the subject of further consultation in the future as part of the Development Consent process under the Maritime Area Planning Act, 2021 and its associated consent framework.

The ... site preparation tests, outlined in RWE's Site Investigation document, have a survey purpose, and, as we understand this, the inclusion of an installation purpose, which will irrevocably damage the Kish and Bray sandbanks, even if restoration work is carried out.

The Foreshore Licence application is for site investigation and ecological monitoring only. It does not include permission for any, site preparation nor permanent installations.

We note that the effect of constant noise over long periods of time on porpoises, seals and other cetaceans will be devastating. Most of these gather in the crook of the north end of Killiney Beach, continuing onward through the curve to White Rock, and on to Dalkey Island, and are adjacent to the SAC area as noted in the supplementary map listed below.

The Natura Impact Statement included in the application documents, Annex F, includes an assessment of the likely significant effects on the conservation objectives of the Rockabill to Dalkey SAC arising from the proposed site investigation and ecological monitoring activities. Based on the assessment of the proposed surveys alone and in-combination with other projects and plans, with mitigation measures in place, it can be concluded that no adverse effects on the integrity of the European sites will arise.

Annex F includes an Article 12 Assessment for all cetaceans which are Annex IV species, i.e. European Protected Species (EPS) listed under Annex IV of the Habitats Directive, which are protected wherever they occur, it is an offence to deliberately capture, kill, injure or disturb such species. With the proposed mitigations in place, as specified in DAHG, 2014 the Article 12 Assessment concludes that no marine mammals whose range may overlap the survey area will be impacted or disturbed by the proposed activities.

### Applicant's Response to Submission 14, Wild Ireland Defence CLG

The foreshore licence application (FS007188) presented to the public is incomplete. Absent for consideration are statutory environmental protection assessments and related determinations by the relevant competent authorities as required under EU legislation. Absent also in the submitted application are the expert observations of statutory consultees and relevant environmental NGOs relating to possible environmental impacts of the proposed foreshore development.

All application documents, including the Natura Impact Statement prepared by RWE, have been made available for public and prescribed body consultation. The public participation requirements of the Aarhus Convention, Article 6, insofar as they apply to decision-making under the Habitats Directive, requires the public participation to occur at an early stage in the decision-making procedure, and for the competent authority (DHLGH) to make available to the public such expert advice or reports or other evidence as are available to the competent authority at that time.

The correspondent's complaint appears to be that the competent authority's Habitats assessment and the observations and submissions of statutory consultees were not made available to the public, despite that they were not available to the competent authority at that time. The Aarhus Convention further provides that such information relevant to the decision-making procedure should be made available to the public with the notice of the decision made. Further, SI 293/2021 now provides that, where a competent authority determines that Appropriate Assessment is required, the competent authority shall ensure that before a determination is made, the public are consulted in relation to the matter.

In light of the above, the correspondent's complaint regarding the information made available for the purposes of consultation with the public is misconceived.

The application form and supporting documents released to the public contain information which has been redacted. It is unclear why the public has been denied access to the redacted information. The redacted data compromise matters surrounding the objectivity, validity, scientific quality, and transparency of processes at issue.

The names of individuals have been redacted by DHLGH in accordance with their policy on General Data Protection Regulation (GDPR).

It is unclear from the information submitted whether the proposed Offshore Windfarms to which the foreshore licence application pertains have been granted foreshore lease consents or not. Concern is raised regarding the possibility of the circumvention of relevant statutory EU environmental impact assessments. It appears that site investigations have been in operation under various foreshore licences for twenty one years (since August 2000) for projects which may or may not have foreshore development consents. The supporting information submitted by the applicant indicates that the current foreshore investigation licence application is sought in order to provide “a more comprehensive geotechnical investigation” compared to previous geophysical survey fieldwork conducted between February and May 2021 under Foreshore licence FS007029. (2021, ‘Foreshore Licence Application for Site Investigation and Ecological Monitoring’, Section 1.5, ‘Previous Foreshore Lease/Licence Applications’). It is essential that the error of project splitting is avoided in statutory assessments. Considering the location, nature and size of the project at issue, it is unclear why the competent authority would determine a Stage 2 assessment under the provisions of the Environmental Impact Assessment Directive unnecessary.

This application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable route(s) to shore and associated infrastructure.

Section 1.5 of the Supporting Information Report which was submitted as part of the application includes a summary of previous Foreshore applications made for Kish Offshore wind farm and Bray Offshore wind farm, collectively referred to as Dublin Array.

The proposed windfarm will be the subject of a development consent application in accordance with the Maritime Area Planning Act, 2021 and its associated consent framework. See previous response setting out basis for legislative designation of ‘relevant MAC usage’ under sections 100 and 101 of the Maritime Area Planning Act 2021.

In addition it is crucial that any foreshore licence consent granted demonstrates support for a coherent scientifically based network of marine protected areas as envisioned by the EU Maritime Spatial Planning Directive.

The limited geographic and temporal scope of the proposed surveys and the nature of the site investigations is such that there could be no interference with the designation of MPAs or the attainment of the objectives of such designations.

The foreshore licence application subject to public consultation fails to demonstrate compliance with the State’s obligations under the Birds and Habitats Directives. The competent authorities must ensure that the statutory Appropriate Assessment screening attains the precise objectives of the assessment as required under the provisions of the Habitats Directive and as set out in *Kelly v. An Bord Pleanála* [2014] IEHC 400 and in the CJEU decision in case C-323/17. At this time of unprecedented loss of biodiversity it is critical that the competent authorities ensure that the appropriate assessment to be conducted clearly demonstrates the precautionary principle which underpins the Habitats Directive as derived from the EU Treaty and is developed in the case law of the CJEU and Irish courts.

RWE's approach and methodology to screening and undertaking the Appropriate Assessment is consistent with relevant Irish and EU guidance (Section 2.2 of the Report to Inform Appropriate Assessment Screening, Annex E) to ensure compliance with the Habitats and Birds Directives. The application documentation is subject to assessment and submissions from statutory bodies (including those with responsibility for environmental protection) and the general public). As the consenting authority the Minister (and Department of Housing, Local Government and Heritage) assess the application and submissions and the decision is informed by the requirements of the EIA Directive and the Habitats and Birds Directives.

As noted above, it appears that the Foreshore Licence application at issue (referenced FS007188) is inconsistent with the State's obligations under the Aarhus Convention and EU environmental protections directives, e.g. the Birds and Habitats Directives and the Environmental Impact Assessment Directive.

No basis has been provided for the correspondent's conclusions that the application is inconsistent with the State's obligations under the Aarhus Convention. RWE have prepared the foreshore licence application and submitted the necessary information in accordance with the requirements of the Department of Housing, Local Government and Heritage. See all previous responses setting out how the proposed site investigations licence application is wholly consistent with both the Habitats Directive and the Birds Directive. The EIA Directive is not applicable to the proposed site investigations.

### Applicant's Response to Private Submission 15

As the survey area has expanded to include a larger area of foreshore at Killiney/Shanganagh and Hackettsland townlands in South Killiney Bay we have some concerns.

The site investigations (geophysical and geotechnical) which are proposed under the current Foreshore Licence application will be focussed on the locations of the proposed turbine foundations, inter-array, and export cable routes to the selected landfall location(s) which are being refined in the course of the iterative design and assessment process. The proposed boundary of the wind farm area and export cable corridors has not changed since the previous Foreshore Licence application FS007029. In accordance with good practice ecological monitoring, including mobile surveys and deployment of static acoustic monitoring devices is proposed within the proposed wind farm development boundary but also within the surrounding area to enable monitoring for potential far field effects. For this reason only the proposed survey area which is the subject matter of the foreshore licence has been increased when compared with a previous application.

### River Estuaries

Shanganagh River: A healthy salmonid river 50 years ago and still supports Sea Trout, possibly eel and mammals such as Otter along the wetland and wildlife corridor to Loughinstown Woods pNHA upstream where lamprey were observed in spring 2021.

The river mouth is within a few hundred metres of the apparent cable corridor route and undersea trenching and borehole drills. It is part of the Dublin Urban Area Rivers Life Project. Water quality took a dip in midsummer 2021.

Deansgrange River Estuary: though culverted, this discharges via a narrow channel on to the shore.

Though the rivers typically discharge to the sea in meandering channels and form lagoons the natural process has been disrupted by necessary regular dredging on the shoreline as a **flood** prevention measure (DLR)

Both rivers showed a dip in water quality in summer 2021 probably due to upstream pressures. Scum in the Shanganagh lagoon in May was queried and may have been due to a algal bloom being trapped in when the seawater retreated. There may also have been impacts on shoreline biota in 2021 with impacts on Baseline Data in Fugro ship survey.

RWE note the information and data sources provided in the response. Physical disturbance of seabed habitat arising from the proposed geotechnical sampling locations, on the south side of the Shanganagh Waste Water Treatment Plant, will affect a very small area and any effects will be highly localised. No impact to water quality within the Shanganagh River, which enters the sea approximately 0.25km to the north of the proposed works, nor the Deansgrange River are anticipated to occur due to nature, scale and location of the proposed surveys.

There is no possible pathway between the non-intrusive geophysical surveys conducted in the area in 2021 and shoreline biota. These surveys did not disturb the seabed nor mobilise seabed sediments. Shallow benthic grab samples (0.1 m<sup>2</sup>) were undertaken as part of the 2021 survey, however the closest subtidal sampling locations was located approximately 3km offshore. Given the distance from shore and the very limited area of seabed disturbance no effect on shoreline habitat could have occurred.

AQUAFAC International Services Ltd. conducted an intertidal survey at Shanganagh in March 2021 on behalf of RWE. This comprised a walkover survey and shallow cores of 15cm diameter at the upper, mid and lower shores along two transects, one in the proximity of the WWTP the other further south near Shanganagh Park. The nature and extent of these activities, conducted by experienced ecologists, would not have had any impact on the biota present on the shoreline.

## Flood Risks

This section of shore is now at High Risk for Coastal Flooding (see **flood** maps attached to DLR Draft County Development Plan in November 2021) and still in an extended public consultation period. The combined risks of coastal **flood**ing, pluvial and alluvial **flood**ing and occasional **flash floods** in the past 12 years have to be factored in to shoreline survey activity with reference to the latest information, CFRAM and DLR Coastal Flooding Reports. The latest Flood maps have only recently been made available on-line for public viewing.

River channels must be kept open to prevent serious upstream **flood**ing that can put lives and homes at risk.



The enclosed space between old and new railway lines and bounded by the rivers is a natural Flood Plain which saturates quickly in times of heavy rains. There is a large area of reed bed and a wildflower meadow.

In summer 2021 there was a bore site in this field to investigate ground water and boulder clay in this green area and also at the beach access point at the railway underpass. It was hoped to drill down 25 metres. Results are not yet available to the public. Rock hard boulder clay would quickly prevent deep drilling.

The clifftop green also saturates quickly and required extra drainage measures along the paths in the past two years. It was always a soggy zone after rains and difficult terrain for walkers.

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## Erosion

The soft glacial cliff north of the Shanganagh River has rapidly accelerating erosion and is now shedding aged rusted metal and other material which indicates there was some ad hoc dumping in past decades.

This may also impact on the Council vehicle services area and dirt ramp from cliff top to the shore which was used for vehicles in the recent Corbawn rock armour works.

Strong storms also impact on upper shore area with a reduction in stable grassy turf along the upper shoreline perimeter.

The potential landfall locations along this stretch of coast have been selected with consideration of flood risk and rates of coastal erosion. The proposed surveys which are the subject of this Foreshore Licence application will not hinder the river channels and have no implication for flood risk nor increased rates of erosion due to the nature, scale and location of the proposed surveys.

Geogenic Reef to the north of the Deansgrange River.

This requires a full ecological survey more than once a year due the seasonal variations in ecosystems. A diving survey would be useful in case anything of importance is missed. The reef is often frequented by up to a hundred birds at mid tide and was once a stopping off point for hundreds of passing geese around St Patrick's Day every year we were told by an elderly observer some years ago.

Areas of potential stony reef were identified in the nearshore areas along the cable route at Shanganagh, during the geophysical surveys conducted under Foreshore Licence FS007029. The ecological survey which was conducted under the same licence recorded video and photographic stills of the area of stony reef.

The maximum scope of the ecological monitoring survey proposed under this Foreshore Licence application has been defined within the Supporting Information Section 2 and within the Project Information Section 4.1 and method statements provided in Section 4.2 of the Report to Inform AA screening. Intertidal and subtidal sampling sites will be selected following review of the most up to date geophysical and environmental data, to identify the presence and extent of sensitive features including subtidal geogenic reef. Sampling will be preceded by drop down video and images reviewed to ensure no impact on reef features, sampling locations will be micro-sited as required.

## Infrastructure

We were glad to see that the Bray Shanganagh Wastewater Treatment Plant on the clifftop has been referenced along with the long Shanganagh Outfall Pipe on the cliff below and the short stormwater overflow pipe in the seabed as these will require due caution in the siting of an cable link.

Local residents, DLR and a local councillor all made reports about the missing marker pole on the shore to Irish Water in autumn 2020 which has not been replaced and may indicate present or older seabed pipes. There were concerns on the grounds of health and safety. There was to be 'investigation' but no sooner than the third quarter of 2021. No recent feedback on this. There seems to have been little consultation with Irish Water referenced so far in the application about possible landfall cable links on the shore area immediately below the plant and close to the outfall pipe. There are also mainline sewers to the plant embedded within the clifftop zone.

### Potential Explosions due to accidental mixing of electricity and sewage gas

There is concern about potential hazards when high voltage cables are run in proximity to undersea outfalls with sewage gas or clifftop cables as it can be an explosive mixture. Please note: Space for an extra tank at the WWTP was factored into the design to accommodate the major increase in population at Cherrywood town. This was expected to be constructed after 2020.

### Other Infrastructure

The immediate upper shore has a popular walkway and plans for a cycleway along the narrow path on top of the old railway line embankment which functioned till about 1912.

### Bridges

There is a fine granite stone bridge over the Shanganagh River estuary ..one of the earliest railway bridges in Europe. This may have a weight bearing limit.

A narrow wooden and metal bridge was constructed over the Deansgrange River in 1990.

### Existing Paths

The narrow pedestrian paths on the old embankment which are also used now by cyclists would not be suitable for persistent heavyweight construction vehicles. While providing a raised walk-way with appealing views it also functions as a protective berm bank and storm buffer. The clifftop path is a narrowed version of the temporary haul road for the building of the Waste Water Treatment Plant.

Future Infrastructure may include a substation and other works to the north of the Deansgrange River on the upper shore according to recent Codling Windfarm maps as another company is competing for use of the same potential landfall space for cables.

The proposed site investigations which are the subject of this application will only occur in the foreshore and will have no impact upon the infrastructure in the vicinity referenced due to the nature, location and scale of surveys proposed.

## Archaeological Heritage

Though mid 19th century structures predominate, there are two earlier structures... a ruined stone battery on the eroding clifftop and a Martello Tower north of the Deansgrange River which may also have been the site of an earlier dolmen or tomb which suggests a long pattern of settlement.

The site investigations which are the subject of this application will have no impact upon the terrestrial or coastal heritage assets in the vicinity due to their scale, nature and location. A Marine Archaeology Assessment, Annex D of the application documents includes an extensive description of both the maritime and coastal archaeological features all of which have been taken into consideration in survey planning undertaken to date and in preparing the application documentation.

Geological Heritage of the Glaciated Cliffs between Killiney and Bray. These are frequently studied by secondary students, university students and other specialist geological groups.

The site investigations which are the subject of this Foreshore Licence application will have no impact upon the cliffs between Killiney and Bray due to their nature, scale and location.

## Amenity Area and public access to paths and shoreline

This is a very popular and busy amenity area used by hundreds of people from near and far during Covid lockdown. Walkers, runners, dog walkers, cyclists, some wheelchairs, e-scooters, picnickers, pram and buggy users were all competing for space along with bathers and people undertaking water activities with canoes, paddle boards and inflatable boards. Anglers fish near the Shanganagh River Estuary. People of all ages and abilities use the area for their regular daily exercise and there are well established rights of way from access points and along paths between Shankill and Killiney. The green clifftop area provides two playing fields used by various clubs along with a community muga pitch and allotment gardens. At times there are incidents of anti-social behaviour with environmental impacts by a tiny minority.

The immediate hinterland has an enclosed meadow space.

The site investigations which are the subject of this application will have no impact upon the amenity areas on the clifftop. Suitable access to the beach at Shanganagh will be agreed with Dun Laoghaire Rathdown County Council prior to commencement of the works, similarly access to the Poolbeg intertidal area will be agreed with Dublin City Council. Small areas of the beach around the geotechnical sampling locations will be closed to the public for safety reasons during the works for short periods of time. RWE have committed to reducing the extent and duration of these closed areas as far as practicable.

## Biodiversity Concerns

While the licence application describes the character of the shoreline and sediments and includes the geogenic reef, it does not give a full picture of the marine biota and integrated shoreline eco systems.

Fauna: Marine mammals, **f**ish, marine birds on the geogenic reef, lagoon and clifftop birds, sandmartin colonies in the nearby Shanganagh Cl**iff**s (referenced by Niall Hatch of Birdwatch Ireland reporting on Mooney Goes Wild on RTE One in the spring) are not referenced along with shoreline bumble bees, up to 16 possible varieties of shoreline and clifftop butter**f**ly, bats, otter and further species. In the past decade bird observations have included visiting geese, little egret, lapwing and king**f**isher. Observations by Dublin Array include some of the algae to be found but not all, and some smaller **f**ish species which were not observed may be present. Snorkellers have made further observations. While eutrophication brings extra growth of some green ulva digitalis this also masks other varieties at times. We were glad to see that Fucus Serratus and Laver seaweed were recorded along with worms on the reef, sandmason and sandhoppers.

The application documents include an EIA Screening and Environmental Report (Annex C), Report to Inform Appropriate Assessment Screening (Annex E) and Applicant's NIS (Annex F). The assessment approach follows the source-pathway-receptor model to identify the possible effects arising from the works, the route by which these effects may be experienced by receptors. An Environmental Appraisal is presented in Section 4 of Annex C, which considers amongst other topics, potential effects upon benthic subtidal and intertidal habitats, fish and shellfish, birds and marine mammals which may experience effects from the proposed works, i.e. where all the elements of the source-pathway-receptor model are in place. Annex C concludes that the nature, scale and location of the proposed site investigation and monitoring is such that there are no foreseeable significant effects on the environment arising from the activities.

Annexes E and F are primarily focussed on receptors which are qualifying interests of a Natura 2000 Sites and cetaceans which are listed under Annex IV of the Habitats Directive.

Flora: Drift Line vegetation features Sea Holly and a number of other marine shore species including a rarer one. Together with Fringe Vegetation and some clifftop plants there is a wide range of wild**f**lower and plants throughout the seasons of the year. This is where 'the meadow met the sea'

AIS: Giant Hogweed is now encroaching on the shoreline shingle and needs to be taken into consideration to prevent further spread if there is soil disturbance.

Shore biota are already under pressure from constant trampling especially during most restrictive pandemic times and this can be observed on the latest Google Earth maps.

Birdwatch Ireland and the Dublin Field Naturalist Club have included the beach and clifftop areas in specialist **f**ield trips and it is easily accessed by public transport.

There is a legal imperative to Protect, Preserve and Restore existing Biodiversity and if in doubt apply the Precautionary Principle to avoid long term environmental damage.

In the application documentation RWE have committed to the appointment of an ecologist to supervise the works within the intertidal areas. The ecologist will undertake a pre-commencement walk-over survey to identify sensitive habitats, including *Zostera noltii*, marram grass and annual vegetation drift lines, the sampling locations will be micro-sited to avoid impacts on sensitive habitats. Reinstatement of the intertidal habitat will be carried out to pre-survey conditions. Pre application consultation with NPWS confirmed the appropriateness of the mitigation measures proposed.

#### Public information Signage!

It would be very helpful to promote greater public engagement by providing site maps of cable link proposals with a link to the plans at public beach access points in Killiney, Bayview railway underpass Killiney, Shankill beach access point and Shanganagh Cliff/Rathsallagh Estates Shankill as happens in the Terrestrial Planning process.

This comment is noted.

When the specific location of the infrastructure which will be the subject of development consent application under the Maritime Area Planning Act, 2021 ) has been identified, relevant maps and drawings will be made available as part of a public consultation procedure for the development consent process, and will ensure that the locations are clearly understandable.

#### Other Comments

Please note: the original licences for exploration of the Kish and Bray banks were granted in 2000 before the increasing evidence of Climate Change, stronger storms and increased flood risks along with coastal Erosion in this area. The construction of the Waste Water Treatment Plant (DBO) was at the early planning stage in 2007 and took nearly 7 years to complete so may not have been taken into account in earlier licences seeking landfall cable sites or taken into proper account. Urban expansion has brought increased pressures to the shoreline area along with increased appreciation of its merits.

Cable Link site at 'Shanganagh Park' with borehole investigations.

There is very scant information on this in the application.

Cable Link Site Shanganagh area Shankill? The proposal for a site north of Bray seems to have been dropped though this was the preferred and only proposed landfall site indicated for many years of this process.

This Foreshore Licence application is for permission to undertake site investigation and ecological monitoring only.

The proposed windfarm will be the subject of a development consent application in due course under the Maritime Area Planning Act, 2021 and its associated consent framework. The location of any infrastructure will be clearly identified in the development consent application when the planning stage design has been completed. The application for development consent will be accompanied by an Environmental Impact Assessment Report which will include an assessment of the potential impact that the proposal may have on a range of receptors including seascape, marine mammals, birds, navigation and the physical environment. Any such application will be subject to public participation.

Increased overall Area of the Dublin Array Windfarm Survey applications.

It has been noted that the overall area has expanded with successive licence and lease applications in the past 20 years and is now very large and hugs the shoreline at Poolbeg, Shellybanks and Hackettsland, 'Shanganagh' Killiney and also 'Shanganagh' Shankill. This comes at the same time as other windfarm applications impacting on the same areas and will add to the cumulative environmental pressures.

The proposed wind farm boundary has not been changed and encompasses the two rectangular areas which were the subject of Foreshore Licences in 2000 and Foreshore Lease applications in 2006. The proposed wind farm boundary is co-incident with the geotechnical survey boundary as shown in Drawing 3 of Annex B to the application documents. In accordance with good practice ecological monitoring, including mobile surveys and deployment of static acoustic monitoring devices is proposed within the proposed wind farm development boundary but also within the surrounding area to enable monitoring for potential far field effects and therefore the Foreshore Licence area extends beyond the proposed development area to the north, south and east.

Information to aid the Minister's assessment of the potential for effects of the proposed works to arise, in-combination with other plans and projects is provided in Section 4.3 of the Natura Impact Statement included in the application documentation ( Annex F) which concluded that that there are no adverse effects upon the European Site's integrity as a result of the in-combination proposed works.

### Applicant's Response to Submission 15 from Coastwatch NGO

Re Proposed Landfall Cable Link Sites.

(1) Poolbeg Shellybanks.

Coastwatch NGO have a particular concern about the Arctic Ciprina site that was near Poolbeg along with the 'Donnax' species. Coastwatchers with an in-depth knowledge of seagrass beds in Dublin Bay have not identified the presence of *Zostera Noltii* at Shellybanks to date but conducted extra verification checks after reading the application, to identify the exact location intended with no success.

Shellybanks shoreline has a rich variety of benthic species (as indicated by the name) so a simple initial 'field' assessment of the actual shells on the shoreline would help provide further information on which species are now present. Further data on shore life is necessary.

Drift line vegetation and incipient marram dunes are identified in the application but detail on further biota is lacking. Species need to be identified. The exact location of the Drift Lines and Marram referenced would be helpful.

While intertidal shoreline investigations may take place for one or two weeks per annum for up to five years a question of seasonality is raised. Spring may reveal different results from a survey in the autumn. There could be a similar variation in regard to sub tidal benthic surveys especially if there is a water pollution incident.

Any ecologist appointed to direct machinery away from sensitive areas needs to have had previous 'on site' experience and training, with further checks by the appropriate authority.

Due to the variability in the exact location and extent of habitat features RWE have committed to appointing an experienced, qualified ecologist to supervise the works within the intertidal areas. The ecologist will undertake a pre-commencement walk-over survey to identify any sensitive habitats, such as *Zostera noltii*, marram grass and annual vegetation drift lines, and to advise RWE on any potential access points to the intertidal area for plant and machinery which would avoid any such sensitive habitats. Reinstatement of the intertidal habitat will be carried out to pre-survey conditions. Pre application consultation with NPWS confirmed the appropriateness of mitigation measures proposed.

Re Boreholes If boreholes for a potential cable corridor at this location run up to 80 metres deep there might there be a danger of activating toxic matter long settled on the seafloor? Aged material from the former dump and reclaimed land is shedding through the rock armour in some places and this needs to be assessed. Suspended sediment may deter the foraging of wading birds. Any risk of toxins should be discussed. A repeat process of 'benthic grabs' may bring repeated damage to a site.

The nearshore boreholes will have a maximum sample diameter of 10 cms and will be drilled to a maximum depth of 45m. The subtidal boreholes will be drilled to a maximum depth of 80m . Borehole samples will be removed from within the drill string for detailed offsite analysis. A small amount of spoil, comprising bentonite and drill cuttings, may be generated from the process . Bentonite is a non-toxic, inert, natural clay mineral that can be diluted with water and is used extensively in the marine environment. The drill string is operated within a riser casing which will contain the drilling spoil/cuttings which will be retained and returned to deck. In accordance with standard practice this material will be returned to the seabed and allowed to disperse naturally. Spoil from borehole locations towards the top of the beach will be recovered and removed offsite for disposal.

Amenity aspects at this site. This is alongside an increasingly popular walking route and not far from the busy Half Moon Bathing Place. Public access issues need to be taken into careful consideration.

Access to the beach at Poolbeg will be agreed with Dublin City Council, similarly access arrangements at Shanganagh will be agreed with Dun Laoghaire Rathdown County Council prior to commencement of the works. Small areas of the beach around the geotechnical sampling locations will be closed to the public for safety reasons during the works, RWE have committed to reducing the extent and duration of these closed areas as far as practicable. There will be no restrictions on access to specific amenity locations, such as the Half Moon Bathing Place.

(2) Cable Link at south Killiney Bay: Killiney, Hackettsland, Shanganagh and Shankill.

The survey area has been extended along the shoreline with this application.

The estuaries of the Shanganagh River and Deangrange which flow into the sea via lagoons and meandering intertidal channels have not been mentioned at all. Both rivers require regular dredging to keep the river mouths free of sand and silt to avoid potential back flow in times of flooding especially at high tide and when there is a driving east wind.

The latest Flood Risk maps for this area were added to an appendix of the DLR Draft Development Plan and need to be viewed. This zone is now a high Coastal Flooding risk in addition to the pluvial and alluvial flooding which have been a feature of the rivers for over a decade (see CFRAM reports) In summer 2021 a contractor was conducting test bore holes to check the ground water and soakage levels in the adjacent field which is a flood plain. Generally they hit boulder clay as hard as bedrock in the hinterland 'field area' only a few metres down. There was a suggestion that an extra drainage pipe might be required in the area.

The Shanganagh River was a high quality salmonid river fifty years ago and still provides a channel for sea trout and sometimes eel using the river wetland corridor which continues to Loughlinstown Commons pNHA and streams further beyond again. The lagoon on the seashore has fish and the shoreline is popular with anglers. The Deansgrange River, now in a narrow culvert, is prone to flash flooding and flows onto the shore via a deep channel that attracts wildlife. Water quality in both rivers dipped in summer 2021 and there was a phase of probable algal bloom and high siltation in the lower tidal area so baseline assessments in Summer 2021 may have had reduced data results.

The proposed wind farm boundary has not been changed and encompasses the two rectangular areas which were the subject of Foreshore Licences in 2000. The proposed wind farm boundary is co-incident with the geotechnical survey boundary as shown in Drawing 3 of Annex B to the application documents. In accordance with good practice ecological monitoring, including mobile surveys and deployment of static acoustic monitoring devices is proposed within the proposed wind farm development boundary but also within the surrounding area to enable monitoring for potential far field effects and therefore the Foreshore Licence area extends beyond the proposed development area to the north, south and east.



Physical disturbance of seabed habitat arising from the proposed geotechnical sampling locations, on the south side of the Shanganagh Waste Water Treatment Plant, will affect a very small area and any effects will be highly localised. No impact to water quality within the Shanganagh River, which enters the sea approximately 0.25km to the north if the proposed works are anticipated, nor the Deansgrange River.

There is no possible pathway between the non-intrusive geophysical surveys conducted in the area in 2021 and shoreline biota. There was no disturbance to the seabed nor mobilisation of seabed sediments. Shallow benthic grab samples (0.1 m<sup>2</sup>) were undertaken as part of the 2021 survey the closest subtidal sampling locations was located approximately 3km offshore, given the distance from shore and the very limited area of seabed disturbance no effect on shoreline habitat is likely to have occurred.

The potential landfall locations along this stretch of coast have been selected with consideration of flood risk and rates of coastal erosion. The proposed surveys which are the subject of this licence application will not hinder the river channels and have no implication for flood risk nor increased rates of erosion.

The application documents include an EIA Screening and Environmental Report (Annex C). The assessment approach follows the source-pathway-receptor model to identify the possible effects arising from the works, the route by which these effects may be experienced by receptors. Environmental Appraisal is presented in Section 4, which considers amongst other topics, potential effects upon fish and shellfish species which may experience effects from the proposed works, i.e. where all the elements of the source-pathway-receptor principle are in place. Annex C concludes that the nature, scale and location of the proposed site investigation and monitoring is such that there are no foreseeable significant effects on the environment arising from the activities.

#### Erosion Threats.

The soft glacial cliff at the cable link site (and towards Shankill) has shown accelerated rates of erosion in the past five years.

The potential landfall locations along this stretch of coast have been selected with consideration of rates of coastal erosion. The proposed surveys which are the subject of this Foreshore Licence application will not affect rates of erosion.

#### Infrastructure

The Bray Shanganagh Waste Water Plant on the clifftop is due for expansion in this decade with the addition of an extra tank with the increased populations in the new Cherrywood Town to the west. Serious discussion with Irish Water is urgent now. When the original Kish licence was granted over twenty years ago the modern WWTP for the area had not been designed, built or in operation. The long seafall outpipe is referenced along with the short storm overflow pipe. Concerns have been raised in regard to the proximity of an electric cables in an area of possible sewage gas leakage due to risk of explosion.

The proposed cable link site through the eroding glacial cliffs will be in a tight space adjacent to the Shanganagh River mouth and WWTP major outfall pipe.

The proposed site investigations which are the subject of this licence application will have no impact upon the infrastructure in the vicinity, all sampling locations will be positioned so as to avoid any impact on these features. RWE have been in consultation with Irish Water and will continue to consult with them as the design of the offshore wind farm and associated cable routes develop.

A thorough search of all planning applications which have been submitted but not yet determined or which have been granted but not yet constructed will be undertaken prior to completing an assessment of potential impacts of the proposed project cumulatively with other plans and projects. The cumulative effects assessment will be presented in the Environmental Impact Assessment Report for the proposed wind farm which will be submitted in due course under the Maritime Area Planning Act, 2021 and its associated consent framework.

#### Historic Infrastructure.

The busy 'raised walkway' is the early railway embankment.

Bridges: The old stone railway bridge at the Shanganagh Estuary is one of the earliest in Europe. The wooden/steel bridge over the Deansgrange River (circa 1990) opened up a continuous right of way from Shankill to Killiney.

Early 19th century built structure features the crumbling cliff-top 'Battery' and a still intact Martello Tower.

The site of the Tower is probably a site of early human settlement.

Future Infrastructure may include an electricity substation for Codling Windfarm on the upper shore close to the Martello Tower as they are also surveying this section of the coast.

The proposed site investigations which are the subject of this licence application will have no impact upon the infrastructure in the vicinity, all sampling locations will be positioned so as to avoid any impact on these features. A Marine Archaeology Assessment, Annex D of the application documents includes an extensive description of both the maritime and coastal archaeological features.

A thorough search of all planning applications which have been submitted but not yet determined or which have been granted but not yet constructed will be undertaken prior to completing an assessment of potential impacts of the proposed project cumulatively with other plans and projects. The cumulative effects assessment will be presented in the EIAR for the proposed wind farm which will be submitted in due course as part of the development consent application under the Maritime Area Planning Act, 2021 and its associated consent framework.

## Amenity Area

There is high use of the narrow coastal paths by people of all ages and abilities (from near and far) along an increase in bathing and water activities. DLR have plans for a coastal cycling route from Killiney to Shankill which will increase path use and bring more visitors to the shore area. For some local residents it is the main accessible daily exercise area near their home. The clifftop area has busy playing fields as well as a community muga pitch and allotment gardens.

The site investigations which are the subject of this application will have no impact upon the amenity areas on the clifftop. Access to the beach at Shanganagh will be agreed with Dun Laoghaire Rathdown County Council prior to commencement of the works, similarly access to the Poolbeg intertidal will be agreed with Dublin City Council.

## Biodiversity.

While some of the lower shore and geogenic reef biota have been listed it is not a full assessment. There are probably gaps in the fish life data on the reef and also the variety of algae present though sometimes this can be masked by eutrophic green algae which is present in many parts of the bay due to lags in water quality. The integrated eco systems of the area demonstrate a good variety of fauna and flora including Drift Line Vegetation and Fringe Vegetation. There was not mention of the birdlife in the lagoons or on the geogenic reef or the sandmartin colonies in the soft cliff close to the site and further along the shore towards Shankill. The precautionary principle has to be applied.

The application documents include an EIA Screening and Environmental Report (Annex C), Report to Inform Appropriate Assessment Screening (Annex E) and Applicant's NIS (Annex F). The assessment approach follows the source-pathway-receptor model to identify the possible effects arising from the works, the route by which these effects may be experienced by receptors. Environmental Appraisal is presented in Section 4, of Annex C, which considers amongst other topics, potential effects upon benthic subtidal and intertidal habitats, fish and shellfish, birds and marine mammals which may experience effects from the proposed works, i.e. where all the elements of the source-pathway-receptor model are in place. Annex C concludes that the nature, scale and location of the proposed site investigation and monitoring is such that there are no foreseeable significant effects on the environment arising from the activities.

Annexes E and F are primarily focussed on receptors which are qualifying interests of a Natura 2000 Sites and cetaceans which are listed under Annex IV of the Habitats Directive.

Any plans for cable links at this location need to be carefully 'ground truthed' as there are many overlapping factors to take into account in a tight space, with both a railway line and intensive residential housing in the hinterland.

The cumulative effects assessment of the proposed wind farm infrastructure with other plans and projects will be presented in the EIAR for the proposed wind farm which will be submitted as part of a development consent application in due course under the Maritime Area Planning Act, 2021 and its associated consent framework.

(3) Other cable link landfall sites indicated in previous licence applications by Dublin Array.

While this application references a possible second cable landfall route somewhere near 'Shanganagh Park' the exact location is not clear and there is no further detail apart from the borehole indicators on a map.

The original proposal for the cable link at Shanganagh North of Bray, Shankill seems to have been dropped in this application as the focus is now on Shanganagh Killiney further south. The name 'Shanganagh' has caused a lot of confusion for the public on these applications as it can cover a large area. It needs to be clearly defined with a user friendly map reference. (This matter was raised directly with Dublin Array in 2020 in the hope of improving the public information).

The rocky area off the coast at Shanganagh Park shoreline access point is favoured by seals and lower shore biota and should be carefully assessed in advance of incursions by windfarm surveyors at any stage.

Although the beach area north of Bray does not appear to be covered in this application please note the presence of the submerged 6000 year old forest (Praeger)

The application is for permission to undertake site investigation and monitoring only. The planning stage design of the project has not been completed and will in due course be the subject of a development consent application under the Maritime Area Planning Act, 2021 and its associated consent framework. The observations included within this submission will be considered as part of the planning stage design preparation process. Clear mapping has been provided as part of the foreshore licence application documentation to enable members of the public identify the specific location of the proposed investigation and survey locations.

The Marine Archaeology Assessment, Annex D of the application documents the presence of the submerged forest have been recorded within the proposed survey area, near Bray Harbour, Co. Wicklow (paragraph 3.3.7 and Figure 3) and appropriate mitigation has been included in the development of the survey plans.

The development consent application for the proposed offshore wind farm to be made in due course under the Maritime Area Planning Act 2021 will be accompanied by an Environmental Impact Assessment Report which will include an assessment of the potential impact that the proposal may have on a range of receptors including seascape, marine mammals, birds, navigation and the physical environment.

Increase in the Survey Area in this application.

The survey area is now vast and seems to have increased with licences and leases for the Kish Bank windfarm proposal since the first applications over 20 years ago. The prolonged surveys with seabed testing, gives is an added pressure to the marine environment and allows little time for 'recovery' Seabed works are reported to cause increased in suspended sediment. If the total area requested in this application is approved extra resources will be required for the state to efficiently monitor it and ensure that the process continues to maintain the standard of agreed investigation methodologies.

A number of surveys have been undertaken historically in the vicinity of the Kish and Bray Banks in accordance with foreshore licences granted in 2000 and 2021. Over this extended period of time natural features such as seabed bathymetry can change and it is important from an engineering design and environmental assessment perspective that up to date information is obtained concerning not only the current condition but also the rate and nature of any change. The data collected to date is being used to inform preliminary design and environmental assessment. The site investigations (geophysical and geotechnical) which are proposed under the current foreshore licence application will be focussed on proposed foundation locations, inter-array, and export cable routes to the selected landfall location(s) which are being refined in the course of the iterative design and assessment process. The proposed development boundary of the wind farm has not changed. It should be clearly noted that suggestions that site preparation works are planned to be undertaken are completely inaccurate and a misrepresentation of the survey methods which are the subject matter of the application.

In accordance with good practice ecological monitoring, including mobile surveys and deployment of static acoustic monitoring devices is proposed within the proposed wind farm development boundary but also within the surrounding area to enable monitoring for potential far field effects. For this reason only the Foreshore Licence area has been increased.

There is still concern about assessing the patterns and pathways of migratory birds (especially geese and terns) fish and mammals as these can vary so much especially with impacts of Climate Change and storms.

On-going consultation with the appropriate state authorities and agencies, Birdwatch Ireland and the Whale and Dolphin Group for the most recent data is essential and will remain a challenge throughout the five years of this licence. Porpoise and cetaceans are at high risk even with the precautions described. Methodology needs to be fully assessed and reviewed during the process with regular policing by the authorities.

RWE consider that the information presented in the suite of application documents, specifically, Annex C, EIA Screening and Environmental Report, Annex E Report to Inform Appropriate Assessment Screening and Annex F Natura Impact Statement, identifies the relevant impact pathways and receptors which require assessment for potential effects of the proposed site investigations and monitoring activities which are the subject of this application.

## Applicant's Response to Submission 16 from Coastal Concern Alliance

### The Foreshore Act 1933

Since 2006, CCA have campaigned for reform of The Foreshore Act 1933, the legislation under which this Foreshore Licence application is being submitted. Universally accepted as outdated and not fit-for-purpose, this legislation is currently under reform and due to go to report stage in the Seanad this week. Given that the update of the legislation is imminent, the continued processing of applications for foreshore licences under the old legislation is not in the public interest.

The foreshore licence application process is not a matter for RWE and the application has been prepared and submitted in accordance with the requirements of the Department of Housing, Local Government and Heritage. However, it should be noted that section 175 of the Marine Area Planning Act 2021, recently adopted by the Oireachtas, expressly makes provision for applications for foreshore licences under the 1933 Act to continue to be made to DHLGH until such time as the new Maritime Area Regulatory Authority is established under the 2021 Act.

The history of the proposed development as described in the current application states that two Foreshore Licences were awarded to Kish Consortium in August 2000. These Licences, one relating to the Kish Bank (copy attached) and a second relating to the Bray Bank, were to remain in force for a period of four years from 2nd April 2001.....

Given that these two Foreshore Licences were granted in 2000 and that they expired in 2005, that no valid Foreshore Lease application was made or accepted by the Department in 2006, they do not appear to be in any way relevant to the current Foreshore Licence application.....

Clearly information relating to ... 2006 Foreshore Lease applications is included in the current application documentation to suggest that it somehow validates the current Foreshore Licence application. Far from doing that, it confirms that in 2006, the then MLVC considered that the environmental information provided did not meet the requirements of the Environmental Impact Assessment Directive, because, inter alia, it failed to consider alternative sites.

In summary, these 2006 Foreshore Lease applications and supporting documentation were deemed to not meet statutory requirements, were not published on the Department's web site and were never subject to statutory public consultation. They have no validity as information on which it is sought to ground the current Foreshore Licence application.

2009. Although not mentioned in the current Licence application, lease application documents are available on the Department's web site stamped Received 2nd June 2009, but dated (not signed) 21 Dec 2005. Among other points of note in these application documents, is the fact that required Planning Permission for shore-based works has not been obtained, a clear indication of project splitting.

In 2013, Dublin Array carried out a major public consultation. Again, this is not referenced in the current licence application.

The subject matter of this licence application is for ecological surveys and site investigation works only. The proposed wind farm development will be the subject of a future development consent application under the Maritime Area Planning Act, 2021 and its associated consent framework.

The letter, dated 18th April 2013, sent to CCA announcing the consultation stated 'Written submissions in relation to the effects on the environment of the proposed development may be made to The Department of the Environment, Community and Local Government, Marine Planning and Foreshore, Newtown Road, Wexford, Co Wexford quoting reference number MS53/55/L1. Numerous citizens took the time and trouble to respond to this including Coastal Concern Alliance, who commissioned a professional assessment of visual impacts to help to inform members. All submissions were uploaded and made available on the Department's web site. (Copy available) However, when CCA wrote to the Department in 2018 seeking clarification on the status of these submissions and were told that they had no status, because they were made in response to the developer's public consultation. The Department, funded by taxpayers, were clearly involved in this consultation, accepted and collated submissions on behalf of the developer and uploaded these to their web site. The collusion evident here makes it almost for citizens to avail of the Fair, Equitable and Timely access to information and access to justice that is required under the Aarhus Convention.

This is illustrative of the impossible burden of responsibility placed on citizens, who should be able to rely on the expertise of government to advocate on behalf of citizens and in support of a democratic foreshore planning process. However, it seems to be the case that government allies itself with the interests of private multi-national energy companies and facilitates their efforts to take advantage of lax regulation and outdated legislation to exploit our near-shore coastal waters for massive industrial development, for which they would not be granted consent in their own countries.

CCA contend that this is in breach of the Foreshore Act 1933, which requires the Minister to make decisions 'in the public interest' and disrespectful of the rights of citizens.

The subject matter of this licence application is for ecological surveys and site investigation works only. The proposed wind farm development will be the subject of a future development consent application under the Maritime Area Planning Act, 2021 and its associated consent framework.

Together with the information provided above which demonstrates clearly that historic applications relating to the Kish and Bray Banks have no valid connection with the current Foreshore Licence application, it should be noted that the Foreshore areas referenced in documentation at various times were as follows:

2000:	4000 hectares
2009:	4000 hectares
2013:	5400 hectares
2019:	25,440 hectares
2021:	112,986.34 hectares

Clearly, the area of the foreshore included in the licences awarded in 2000 bears no relationship to the area of the foreshore included in the current Foreshore Licence application.

The current Foreshore Licence area is larger than the two adjoining Licences awarded in 2000 as it includes corridors in which export cables may potentially be routed and an area surrounding the proposed wind farm boundary for the purpose of ecological monitoring is proposed. In accordance with good practice, mobile ecological surveys and deployment of static acoustic monitoring devices is proposed not only within the proposed wind farm development boundary but also within the surrounding area to enable monitoring for potential far field effects.

## Remedial Obligation

It is evident that previous consents granted for any application associated with the proposed development had not been carried out in compliance with the requirements of European Environmental law and, in particular, the requirements of the Bird's Directive, the Habitats Directive and the EIA Directive. In circumstances where those consents were granted in non-compliance with these directives there is an express remedial obligation on the Minister in his consideration of the within application to ensure that the appropriate environmental assessments are carried out in connection with the previous consent in addition to the proposed application for development.

Given the chaotic processes that characterise the history of this proposed development, the consents sought, the applications rejected due to failures to comply with EIA Directive, Aarhus Convention etc. it is imperative that all of these historical issues are addressed and the required remedial obligation applied.

The current application is for ecological surveys and site investigations only. No previous applications associated with the proposed development have been rejected.

## Consideration of alternatives, 2021.

The current Foreshore Licence application fails to consider alternatives. ....

... To honour this commitment, the Irish government must acknowledge the direct conflict between extensive uncontrolled near shore energy development on vulnerable habitat, as is proposed in the current application, and their responsibility to Irish citizens and the international community to urgently put in place measures to ensure the conservation and restoration of the planet's biodiversity 'to address climate change and as a foundation for sustainably managing the whole planet'. Consideration of alternatives is key to getting the balance right.

This application is for ecological monitoring and site investigation works required to inform the engineering and design of a proposed offshore wind farm, the potential cable route(s) to shore and associated infrastructure. Alternatives considered as part of the development will be included in the environmental impact assessment report which will accompany the development consent application intended to be submitted in due course under the Maritime Area Planning Act, 2021 and its associated consent framework.



## Site selection

The siting of offshore renewable energy installations has been a key concern of CCA since our formation in 2006. We have repeatedly expressed serious reservations about the manner in which Government has continued to process licence and lease applications in Ireland's near-shore area on sites selected by developers on 'a first come first served' basis. The current Foreshore Licence application is a case in point. The government's acceptance of this application for extensive investigations on a sensitive site selected by the developer without any State resource and constraints analysis is totally out of line with current good international practice.

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This application is for ecological monitoring and site investigation works required to inform the engineering and design of a proposed offshore wind farm, the potential cable route(s) to shore and associated infrastructure. Alternatives considered as part of the development consent will be included in the environmental impact assessment report which will accompany the development consent application intended to be submitted in due course under the Maritime Area Planning Act, 2021 and its associated consent framework.

The vast majority of other EU countries exercise strict control over the locations of offshore wind farms. Governments select potential zones for offshore wind adopting an ecosystem approach and consulting widely with stakeholders. They then open these zones to developers who must submit detailed EIAs for their proposed developments. The UK Government, for example, has controlled offshore wind development via various Leasing Rounds with government carefully selecting sites before offering them for potential development.

This application is for ecological monitoring and site investigation works required to inform the engineering and design of a proposed offshore wind farm, the potential cable route(s) to shore and associated infrastructure.

The Maritime Area Planning Act 2021 recently adopted by the Oireachtas makes provision for the continued processing of licence applications under the 1933 Act pending the establishment of MARA in 2023. The application for a Foreshore Licence will be evaluated by the Minister in accordance with EU law, including (where considered necessary) an independent scientific evaluation of the likely significant effects of the proposed site investigations and surveys on European sites. The Minister is precluded by Article 6(3) of the Habitats Directive from granting any licence which could have adverse impacts on the integrity of a European site, whether individually or in combination with other plans or projects.

## National Marine Planning Framework 2021 & site selection

Ireland's National Marine Planning Framework (NMPF) was adopted in 2021. The Strategic Environmental Assessment Environmental Report, (SEA ER) carried out to assess the environmental impacts of the draft Plan highlighted the need for a 'robust site selection process to inform the best technical and environmental locations for any given prioritised activity'. This applied to all potential uses of the marine environment. However, more specific points were made in the discussion of Offshore Renewable Energy. The SEA ER stated 'There is potential for negative impacts for all environmental receptors where ORE infrastructure has not had the benefit of a robust site selection process which explicitly includes consideration of benthic habitats, marine mammals, birds and visual receptors as a minimum'.

A report from the International Union for the Conservation of Nature (2021), Mitigating Biodiversity Impacts associated with Wind and Solar energy developments, confirms that site selection at the early planning stage is the most important consideration in optimising avoidance of biodiversity impacts.

It is essential to understand that this requirement does NOT arise as a result of the drafting of Ireland's NMPF. It is a requirement laid down in the Environmental Impact Assessment Directive (Directive 85/337/EEC, as amended), which was transposed into Irish law by the European Communities (Environmental Impact Assessment Regulations), 1989 (S.I. No. 349 of 1989), well in advance of the consideration of any applications for OWF development in Ireland's coastal waters. It is designed to ensure that projects likely to have significant effects on the environment are subject to a comprehensive assessment of environmental effect, prior to development consent being given.

In the current Foreshore Licence application, RWE are applying for authorisation to undertake a geotechnical and geophysical site investigation for the proposed Dublin Array offshore wind farm development in spite of the fact that it is clear that no robust site selection process which explicitly includes consideration of benthic habitats, marine mammals, birds and visual receptors has been undertaken.

While it was a requirement even when initial applications were made for Foreshore Licences for site investigation on the Kish and Bray Banks in 1999, lax application of the law appears to have facilitated the granting of early consents with no environmental constraints. However, with regard to this current Foreshore Licence application, it must be concluded from even a cursory assessment of the suitability of this site, the site is completely unsuitable for the type of development envisaged.

This application is for ecological monitoring and site investigation works required to inform the engineering and design of a proposed offshore wind farm, the potential cable route(s) to shore and associated infrastructure. All necessary assessments required to determine this application shall be carried out by or on behalf of the Minister in accordance with applicable EU and Irish law.

Appropriate Assessment of potential impacts on protected habitats and species.

CCA contend that with regard to Natura 2000 habitats and species that the Precautionary Principle must apply and that this precludes the application of mitigation measures. The acknowledgement that mitigation measures will be required across a range of species and habitats contravenes the Habitats Directive in failing to provide complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works.

There are numerous examples in the Applicant's Natura Impact Statement and EIA Screening and Environmental Report where it is acknowledged that mitigation will be required with regard to impacts on Natura 2000 habitats and species (e.g. birds, cetaceans), CCA cite the proposed works described in the EIA Screening and Environmental Report 2.3.3. with regard to epibenthic trawls and grab sampling, the failure to specify the locations for these proposed works and the failure to acknowledge that these proposed works could impact Natura 2000 sites.

The approach and methodology to screening and preparation of the Natura Impact Statement (NIS) included within the application documentation is consistent with relevant Irish and EU guidance (Section 2.2 of the Report to Inform Appropriate Assessment Screening, Annex E) and ensures compliance with the Habitats and Birds Directives and transparency of both the process and findings. The method draws upon guidance produced by Department of Environment, Heritage and Local Government (2009) and Office of the Planning Regulator (2021) and the European Commission Guidance on the Methodological Approach to the assessment of plans and projects under Article 6(3) and 6(4) of the Habitats Directive (EC, 2021).

Mitigation measures have not been taken into account at the screening assessment stage consistent with Article 6(3) as interpreted by the Court of Justice of the EU.

Mitigation (avoidance and protective measures) are properly presented and applied in the NIS (Annex F). Section 4.2 of the NIS presents the results of the assessment of potential significant effects which have been screened in for appropriate assessment, without consideration of mitigation. Section 4 presents the mitigation measures which RWE are committed to implementing which will be a condition of the grant of any Foreshore Licence. Section 4 further describes the predicted effects of the proposed surveys and site investigations on European sites with the proposed mitigation in place. Based on the assessment of the proposed surveys and site investigations, both alone and in-combination with other projects and plans, with mitigation measures in place, it is concluded that no adverse effects on the integrity of the European sites concerned will arise, in view of the site's Conservation Objectives.

Recently published European Commission Guidance<sup>11</sup>, C(2021) 6913 final Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC confirms the importance of applying mitigation measures, where necessary, to ensure the conservation of protected animal and plant species and habitat types.

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<sup>11</sup> [https://ec.europa.eu/environment/nature/natura2000/management/pdf/methodological-guidance\\_2021-10/EN.pdf](https://ec.europa.eu/environment/nature/natura2000/management/pdf/methodological-guidance_2021-10/EN.pdf)

*“Mitigation measures may be proposed by the plan or project developer or required by the competent national authorities in order to remove, pre-empt or reduce the impacts identified in the appropriate assessment to a level where they will no longer affect the integrity of the site.”*

The assessment of impacts arising from biological sampling incorporates the precautionary principle and has been undertaken on the assumption that samples could be taken from any location within the Foreshore Licence boundary with the greatest potential to impact on Natura 2000 sites. As stated sampling locations will be confirmed following review of the geophysical data of the area which will be analysed to identify ground types and seabed features and to refine the selection of grab locations and to ground truth the data and provide material for biological sampling. This approach provides a robust and informed sampling array in line with relevant guidance and best practice for surveys intended to avoid targeting sensitive habitats, the location and extent of which are dynamic. This does not mean that RWE will be at large in determining where, or how many, or what type of samples may be taken within the scope of the Foreshore Licence. That will be defined by the terms of the Licence and within the parameters of the assessment already undertaken in accordance with Article 6(3) prior to the grant of the licence.

With respect to the potential impact on species the subject of the Article 12 Assessment, there is no preclusion on incorporating consideration of mitigation measures, such as compliance with NPWS Guidance, in the Article 12 assessment procedure.

The array area on which these grab samples and epibenthic trawls are proposed is on the Kish and Bray Banks. These banks are Annex 1 Habitat type 1110 ‘sandbanks slightly covered by seawater all the time’.

There are two proposed Export Cable Corridors (ECC) covering large areas within the Foreshore Licence Application Area, that encompasses SACs and SPAs on which grab sampling and epibenthic benthic trawls are also proposed.

This Kish Bank is known to be an ecologically rich habitat, with calculated diversity, richness and evenness that is broadly similar to those sandbanks designated as habitats of community importance within the UK jurisdiction. Unsurprisingly, the Kish and Bray Banks were selected for designation as a Special Areas of Conservation (SAC) by National Parks and Wildlife Service in 2012. In addition, a 2012 document seeking Ministerial approval for the designation of marine sites as SACs stated ‘It is anticipated that the Kish Bank will be designated as a Special Protection Area for birds in the future.’

Indeed, an earlier environmental assessment carried out on behalf of Dublin Array stated ‘The Bank itself has sufficient conservation value to qualify for SPA status, solely on the grounds of the roseate tern numbers that use it.’

Since 2007, evidence from EU Conservation Assessment reports confirm that the construction of wind farms on sandbanks will degrade the habitat. This is re-iterated in a 2020 publication from National Parks and Wildlife Service 'The Monitoring of six EU Habitats Directive Annex 1 Marine Habitats. Commenting on sandbanks slightly covered by seawater all the time this report states '... potential threats to the habitat are considered to include the potential impacts of wind energy infrastructure in the vicinity of the habitat.'

Annex E of the application documents presents a Screening Assessment of all SACs and SPAs within the potential zone of influence of the site investigation and monitoring activities which are the subject of this Foreshore Licence application. A number of SACs and SPAs are screened in for assessment and this is presented in the Natura Impact Statement, Annex F, included in the application documents. The SACs and SPAs within which benthic sampling is proposed are screened in for appropriate assessment. The Natura Impact Statement concludes that there is no potential for adverse effects on the qualifying interests of any European site.

The EIA Screening and Environmental Report, Annex C considers whether, firstly, the activities proposed under this Foreshore Licence constitute a project type listed in either Annex I or II of the EIA Directive, and secondly whether the activities would be likely to have significant environmental effects. This report includes consideration of effects on benthic ecology both within and outside European site, including the Annex I sandbank habitat. The latter is not considered directly within Annex E or Annex F as the feature is not designated as a qualifying interest of an SAC within the zone of influence. The habitat type 'sandbanks slightly covered by seawater all the time' is not considered sensitive to benthic survey grabs which result in small and temporary disturbance to sediment which will return to normal equilibrium very quickly.

This application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable route to shore and associated infrastructure. It should be noted that NPWS, 2020, The Monitoring of six EU Habitats Directive Annex 1 Marine Habitats identifies the potential for impacts to Annex I sandbanks from wind energy infrastructure. Whether or not an individual project will have significant effects on these features is dependent upon a number of factors, including among others the extent and condition of the habitat and design of the wind farm. A development consent application for the proposed windfarm, which will be submitted under the consent framework established under the Maritime Area Planning Act, 2021, will include assessments of the potential effects of the offshore wind farm, including the potential impacts on Annex I sandbanks. The application will also include reports to inform the competent authorities Appropriate Assessment Screening and Appropriate Assessment. The potential for impacts on mobile species, such as terns, which may be connected with a European Site for which that species is a qualifying interest will be assessed and the results presented. It will then be for the competent authority to determine the application in accordance with EU and Irish law.

It is obvious from this information, all taken from official sources, that

(a) Kish and Bray banks are Annexe 1 type sandbank habitat and should be protected and not knowingly degraded due to extensive Offshore Renewable Energy (ORE) development.

(b) knowing degradation of such habitats is in contravention of Ireland's Biodiversity Action Plan 2017-2021 that aims to 'protect and restore' biodiversity and habitats

(c) a site that was selected by National Parks and Wildlife for designation as a SAC and that, furthermore, is earmarked as a site that will be designated as a Special Protection Area for Birds, is a totally inappropriate site on which to construct a windfarm.

(d) the carrying out of grab samples and epibenthic trawls in unspecified locations across a Foreshore Licence Application area of almost 113,000 hectares that encompasses numerous Natura 2000 sites, all listed in the Foreshore Licence Application documents, is not consistent with providing complete, precise and definitive findings and conclusions capable of removing all reasonable doubt as to the effects of the proposed works and is, therefore in breach of art 6(3) of the Habitats Directive.

Annex E of the application documents presents a Screening Assessment of all SACs and SPAs within the potential zone of influence of the site investigation and monitoring activities which are the subject of this Foreshore Licence application. A number of SACs and SPAs are screened in for assessment and this is presented in the Natura Impact Statement, Annex F, included in the application documents. The SACs and SPAs within which benthic sampling is proposed are screened in for assessment. The Natura Impact Statement concludes that there is no potential for adverse effects on the qualifying interests of any European site.

The current RWE Foreshore Licence Application gives information about the background to the project and details of the site investigation and monitoring activities for which the Licence is required. However, all adjoining, neighbouring and related developments have not been considered.

As detailed in Section 7.4 of the Report to Inform Appropriate Assessment, a search of publicly available information was undertaken to identify other plans and projects which may result in an adverse effects on the integrity of any Natura 2000 sites in combination with the site investigation and monitoring activities proposed under this Licence application. Sources included DHLGH Foreshore Licence database and the EPA Dumping at Sea Register. The search was undertaken for all projects within a 30 km radius of the Foreshore Licence application area. Given the localised and temporary nature of the survey works this was considered precautionary. The projects considered include those submitted but not yet determined and existing licences which have been granted but the associated activities not yet completed.

CCA object to the granting of another Foreshore Licence to this consortium given that, as is stated in the current application, a Foreshore Licence was granted to Innogy Renewables Ireland Ltd. (now RWE) in January 2021 with respect to this proposed development on the Kish and Bray Banks and RWE, pursuant to the awarding of that licence, completed a successful geophysical, geotechnical and benthic survey campaign between February and May 2021. These are the same types of investigations for which a second Foreshore Licence is now sought.

RWE completed a successful geophysical and benthic survey campaign between February and May 2021 under Foreshore Licence FS007029. Having completed the geophysical survey fieldwork it has been determined that, due to the limited scope and geographical extent of the geotechnical investigations authorised by the licence, and the need for a more comprehensive geotechnical investigation to inform the detailed design and assessment of the project, a more comprehensive geotechnical investigation is warranted. The revised scope is included within this foreshore licence application. Further geophysical surveys focussed on narrow corridors proposed turbine foundation locations, inter-array, and export cable routes to the selected landfall location(s) will provide detail on the rate and nature of any change in bathymetry. A series of surveys of these types are typical of the development of marine projects and are part of an iterative design and assessment process.

Two metocean buoys and a FLiDaR have also been deployed in accordance with Foreshore Licence FS007029, a Statutory Sanction as received from the Commissioners of Irish Lights and an Automatic Identification System Licence issued by the Commission for Communications Regulation. This metocean and wind survey campaign is authorised for a period up to August 2023 (two years post successful calibration). A further metocean and wind campaign is included within this foreshore licence application to provide a longer term data set to inform the design of the proposed wind farm..

While the current Environmental Impact Assessment Screening (p31.10) considers the potential for cumulative impacts with some other existing or planned activities in the locality, it fails to consider the cumulative impacts of repeated surveys relating to a single proposed development. In particular in this instance, the most recent survey was carried out this year, yet no consideration has been given to its impacts when combined with the further investigative works for which another Foreshore Licence is now sought.

The Appropriate Assessment Report prepared on behalf of the Competent Authority (Minister and Department of Housing, Local Government and Heritage) in relation to the previous Foreshore Licence FS007029, concluded that the proposed Site Investigation works were not likely to pose a significant likely risk to nature conservation interests of any of the adjacent Natura 2000 sites. With the exception of the metocean and wind survey campaign which is ongoing and authorised to continue for a period up to August 2023, RWE have completed all of the survey and site investigation activities that they intend to undertake under that Licence.

There is, accordingly, no temporal overlap between the proposed site investigations and ecological surveys the subject of the current Foreshore Licence application, and the site investigations and surveys conducted under the previous Foreshore Licence (with the exception of the metocean and wind survey campaign). There is, in fact, a significant interval between the previous activities completed between February and May 2021, and the proposed activities to be licensed under the current application. It is therefore considered that there is no potential for significant effects to arise from the proposed activities in combination with the activities undertaken previously between February – May 2021.

The current Licence Application also states that as far back as 2000, Licences were awarded that gave consent for drilling and sampling of seabed sediments, geophysical measurements and deployment of wave, tide current and silt load measurement equipment, highlighting the fact that impacts of extensive investigative procedures relating to this proposed development have been accumulating for over two decades without any or any proper regard to the cumulative impacts of the proposed development with other developments and the remedial obligation on the developer and the decision maker to redress any deficiencies, omissions and lacuna in respect of the environmental assessment undertaken for previous consent.

As noted above it is typical of marine projects to undertake a series of surveys and site investigations as part of an iterative design and assessment process. Due to the variable nature of the marine environment there is also a need for site investigations and surveys to be kept up to date if they are to inform the process. Investigations proposed have been undertaken in accordance with relevant industry practice and guidance.

There is no indication that any surveys associated with the Dublin Array project, undertaken to date, have had any significant effect on the receiving environment. The proposed activities, the subject of the licence application, will be subject to screening for Appropriate Assessment and Appropriate Assessment pursuant to Article 6(3) of the Habitats Directive which incorporates the protection of the species listed in the Birds Directive, and will be subject to a preliminary assessment under the EIA Directive and if considered necessary, screening for EIA. The application documentation will be assessed by the Minister and Department of Housing, Local Government and Heritage and its associated advisors prior to a determination being made.

In addition, on 28 January 2021 a Foreshore Licence was awarded to Codling Wind Park (CWP). The area covered by the CWP Foreshore Licence overlaps significantly with the area included in the Licence granted to Innogy Renewables in 2021, and with the site in question in the current licence application, further exacerbating the potential for cumulative adverse environmental impacts.

As detailed in Section 7.4 of the Report to Inform Appropriate Assessment an in combination screening assessment has been completed. As there is potential for some surveys which are the subject of the CWP Foreshore Licence to overlap spatially and temporally with the activities which are the subject of this Foreshore Licence application the CWP Foreshore Licence was taken forward and assessed within the Natura Impact Statement, Section 4.3. The in-combination assessment concluded that there will be no adverse effects on the integrity of any European Site arising from the proposed activities in-combination with other plans and projects.



At 2.6. in the Foreshore Licence Application, distance from nearest other developments, including any offshore renewable energy developments on the foreshore, are recorded. This section includes reference to proposed offshore wind developments at Codling Wind Park and at Braymore Point. However, other offshore renewable energy licence application areas are located close to the proposed foreshore licence boundary, for example the North Irish Sea Array application area, that is closer to the current Foreshore Licence application area than Braymore Point, but it is not referenced or considered in the assessment of cumulative impacts in the current environmental assessment.

Section 7.4 of the Report to Inform Appropriate assessment explains why the North Irish Sea Array (NISA) investigative surveys are screened out of further assessment. The application document for NISA concludes that the effects of geotechnical, metocean and benthic ecology surveys are considered to be localised (immediate footprint of the equipment or in the case of drilling within 100m of the drilling equipment). Therefore, in combination effects between the surveys at Dublin Array and NISA due to geotechnical, ecological or metocean activities are not considered likely.

#### Cumulative impact - Cetaceans

With regard to the manner in which the impact on cetaceans is considered CCA do not deem the information to be the 'best available scientific evidence'

According to the Natura 2000 statement, "the Conservation Objectives to maintain the favourable conservation condition of Harbour Porpoise (*Phocoena phocoena*) [1351] within the Rockabill to Dalkey Island SAC, are defined by the following list of attributes and targets:

- Species range within the site should not be restricted by artificial barriers to site use; and
- Human activities should occur at levels that do not adversely affect the harbour porpoise community at the site."

Both as a result of noise disturbance and physical destruction of reefs, there is admittedly by phase 1 assessment in the Natura 2000 Statement presented, a "potential for adverse effects" on the qualifying interests (QIs) of the SAC.

As stated in the supporting marine information for the Rockabill to Dalkey Island SAC<sup>12</sup>, artificial barriers refer to “proposed activities or operations that will result in the permanent exclusion of harbour porpoise from part of its range within the site, or will permanently prevent access for the species to suitable habitat therein. It does not refer to short-term or temporary restriction of access or range”. As noted in Annex E, Section 6.2 any disturbance associated with the proposed works which are the subject of this application will occur over a small area, in proximity to the survey vessel undertaking the work. As such any disturbance in any one area will be limited to a period of a few days as the survey vessel undertakes work in that area. Therefore there will be no barrier effect, as defined by the supporting marine information for the Rockabill to Dalkey Island SAC.

The assessment of effects without mitigation in place, presented in Section 4.2 of the Natura Impact Statement, Annex F, acknowledges the potential for localised disturbance effects on harbour porpoise from the activities proposed. The subsequent assessment with mitigation in place concludes that no individual harbour porpoise will be impacted by the surveys. There is therefore no potential for the harbour porpoise community at the site be adversely affected.

Section 4.2.6 (p. 60) of the Natura 2000 statement states that “The geotechnical works fall outside the range of hearing thresholds for harbour porpoise”. Based on other surveys of a similar nature (e.g. FS007339 on Arklow Bank), this statement appears to be assuming a SPL (non-weighted, peak frequency) approach rather than a SEL (weighted frequency approach), which is the current gold standard for appropriate assessment on noise on marine mammals and is, therefore, the best available scientific evidence.

It is noted that it is theoretically possible to convert between  $SPL_{rms}$  and  $SEL_{cum}$ , however the conversion is based on a series of assumptions, which results in impact ranges which are so extremely conservative as to not provide anything meaningfully relevant to biological organisms. The primary assumptions are that the animal is stationary and facing towards the source of the noise for the entire duration of the impact (up to 24-hours of constant exposure). These assumptions are not realistic for the real-world application of the assessments, as individuals would not feasibly behave in this way and would in fact move away from the sound source (even if not explicitly showing a fleeing reaction). Additionally, studies (Au, 1993) have demonstrated that animals not directly facing the sound of source can be exposed to significantly quieter received sounds (3 – 10dB lower for an animal moving away compared to moving towards a noise source). Therefore, for the marine mammal assessments being discussed any numbers presented following a conversion between  $SPL_{rms}$  and  $SEL_{cum}$  would be considered to have no real world implications and are not valid for these assessments.

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<sup>12</sup> [https://www.npws.ie/sites/default/files/publications/pdf/003000\\_Rockabill%20to%20Dalkey%20Island%20SAC%20Marine%20Supporting%20Doc\\_V1.pdf](https://www.npws.ie/sites/default/files/publications/pdf/003000_Rockabill%20to%20Dalkey%20Island%20SAC%20Marine%20Supporting%20Doc_V1.pdf)

Additionally, when looking at examples of noise propagation modelling for drilling from other projects (for example East Anglia Two which modelled drilling for monopiles, which is louder and more impactful than that considered within this assessment), the ranges for Permanent Threshold Shift (PTS) and Temporary Threshold Shift (TTS) were concluded to be <100 m for a fleeing animal. One hundred meters is the lowest resolution possible for the model and it is therefore likely that the realistic impact ranges are smaller than this. This modelling for East Anglia Two was based on a much more intensive noise source, for drilling of large monopile foundations rather than small scale coring, and it can be assumed that the maximum potential impact range for the Dublin Array survey works will be further reduced from this number. Therefore, there is no risk of any auditory injury to marine mammals from the proposed works at Dublin Array.

Provided in the same paragraph (Section 4.2.6 (p. 60)) of the Natura 2000 statement states that “given that any noise impacts on cetaceans and their prey would be short term, temporary and intermittent.... potential for disturbance to the species will be minimised and no impacts on the Conservation Objectives of the SAC are predicted.” We do not accept this statement and would present that the noise disturbance and inhibition of QI species and their food source represents a “restriction by artificial barrier” and is contraindicated by the conservation objectives of the SAC.

As stated in the supporting marine information for the Rockabill to Dalkey Island SAC<sup>13</sup>, artificial barriers refer to “proposed activities or operations that will result in the permanent exclusion of harbour porpoise from part of its range within the site, or will permanently prevent access for the species to suitable habitat therein. It does not refer to short-term or temporary restriction of access or range”. As noted in Annex E (6.2.17), any disturbance associated with the proposed works which are the subject of this Foreshore Licence application will occur over a small area, approximately 100m from the survey vessel undertaking the work. As such any disturbance in any one area will be limited to a period of a few days as the survey vessel undertakes work in that area. Therefore there will be no barrier effect, as defined by the supporting marine information for the Rockabill to Dalkey Island SAC. Neither will the harbour porpoise community at the site be adversely affected as with mitigation in place no individuals will be impacted by the surveys.

No quantification of the Zone of Inhibition (Zoi) is presented in the Natura 2000 statement, which is contrary to good practice for Appropriate Assessment and without which no appropriate assessment on the impact of the Qis of the SAC can be provided.

The Report to Inform Appropriate Assessment undertook a screening exercise for all Natura 2000 sites using the source-pathway-receptor approach to determine all effect pathways to European sites for the survey activities. In line with recent guidance (Office Planning Regulator, 2021) and EC Methodological Guidance on Article 6(3) and 6(4) of the Habitats Directive (EC, 2021) the screening considered all sites that fell within the defined Zone of Influence of activities. In the case of mobile species the Zone of Influence captures remote sites where species distribution/ ranges provide connectivity.

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<sup>13</sup> [https://www.npws.ie/sites/default/files/publications/pdf/003000\\_Rockabill%20to%20Dalkey%20Island%20SAC%20Marine%20Supporting%20Doc\\_V1.pdf](https://www.npws.ie/sites/default/files/publications/pdf/003000_Rockabill%20to%20Dalkey%20Island%20SAC%20Marine%20Supporting%20Doc_V1.pdf)

With regard to mitigation measures in place to inhibit PTS in marine mammals, no mention of the use of passive acoustic monitoring (PAM) has been mentioned, which would be required for the 'qualified observer' to ensure that no marine mammals were present within the zone of inhibition prior to initiating noise creating works. An observer, no matter how qualified will likely miss sensitive marine mammals in the vicinity without the use of this apparatus and as such a likely significant risk remains in place.

Section 4.2 of the Applicant's NIS, Annex F, acknowledges that without mitigation in place there is potential for localised disturbance effects on harbour porpoise from the activities proposed; no risk of injury, including PTS is likely.

RWE have committed to mitigation proposed for marine mammals in accordance with the appropriate Irish guidance (DAHG, 2014). DAHG, 2014 states that while the use of PAM in Ireland is encouraged as a helpful and beneficial tool for detecting and monitoring certain cetacean species, the Department does not believe it is sufficiently developed to be regarded as the primary or sole monitoring approach for risk management purposes. Therefore whilst PAM is likely to be used by the survey company appointed to undertake the works in addition to marine mammal observers -conservatively the assessments as documented in the NIS submitted with the application have not relied on the use of PAM as mitigation.

Based on these facts it is obvious that, in relation to the current Foreshore Licence application, potential cumulative environmental impacts have not been adequately described or assessed.

Please see responses provided above.

The Offshore Renewable Energy Development Plan - Strategic Environmental Assessment.

In the EIA Screening and Environmental Report presented in support of this application at 4.1.2 it states 'Consideration has also been given to the findings and objectives within the National Marine Planning Framework (DHLGH, 2021) and the Strategic Environmental Assessment for the Offshore Renewables Energy Development Plan (DHLGH, 2021).'

The Offshore Renewable Energy Development Plan, drafted in 2010 was adopted in 2014 having been seriously criticised as a result of the numerous data gaps and the lax methodology employed in drafting the plan. All official documents stated that the OREDP would be subject to an interim review of the Plan and associated SEA in 2017 with a full review of both to be carried out in 2020.

The Offshore Renewable Energy Development Plan (OREDP) – Interim Review (published May 2018) states (Page 3) This Review Report focuses exclusively on the OREDP and does not incorporate a review of the associated SEA. It is important to note that this review does not make any changes to the OREDP; rather the review aims to chart progress on the Plan, identify challenges that have emerged and identify areas that need to be prioritised or require further attention. A full review of the Plan and associated SEA will take place in 2020.

Given the major developments in technology and environmental assessment since the OREDP and its associated SEA were published and indeed the serious questions surrounding underlying data and methodology, CCA have been keenly awaiting the required review of the Plan and associated SEA due in 2020. Over the past two years, CCA have written to the Minister seeking details of progress on this. Our most recent communication was sent in the past few weeks. In spite of this, no information has been provided to CCA on the required full review of the Plan and associated SEA.

We note with deep concern the reference in the Dublin Array application quoted above (4.1.2) to the SEA of the OREDP (DHLG 2021). This reference to a vital Strategic Environmental Assessment which has not been published or subject to public consultation highlights the unacceptable lack of transparency and absence of democracy surrounding the development of ORE in Irish waters. Clearly long awaited and crucial environmental information which is not in the public domain has been made available to RWE (or its agents) to promote this vast industrial development on vulnerable near shore habitat.

The intended reference was in relation to the National Marine Planning Framework and should read Strategic Environmental Assessment for the Offshore Renewables Energy Development Plan (2010) and any confusion created by this error is regretted.

Relevant Projects.

In May 2021, the Minister announced the designation of Relevant Project status that was conferred on certain offshore renewable energy project applications. This designation, with enormous consequences for damage to the environment, was cooked up behind closed doors. There was NO public consultation, no strategic environmental assessment, no advance public notification etc.

The Library and Research document written to explain the Maritime Area Planning Bill specifically states

'In January 2020, the Departments of Housing, Planning and Local Government and Communications, Climate Action and the Environment developed and published a transition protocol and invited applications (from these 'Legacy or Relevant Projects').'

CCA contend that the manner in which this protocol was drafted and the awarding of priority status to proposed massive offshore wind developments is in breach of the Aarhus Convention and the EIA Directive, by failing to provide the public with any opportunity to consider the implication of the designation of these 'Relevant Projects', especially at a time when, due to Covid restrictions, the focus of the public was elsewhere.

This is yet another example of the State not acting 'in the public interest' as they are required to do.

Section 100 of the Maritime Area Planning Act 2021 defines a 'relevant MAC usage' as including any proposed maritime usage which is for the purposes of producing, from wind, offshore renewable energy where the usage – (a) is the subject of an application for a foreshore authorisation made before 31 December 2019 and which has not been finally determined, or abandoned or withdrawn, before the coming into operation of s.101, (b) is the subject of a foreshore authorisation, or (c) was, on 31 December 2019, the subject of (i) a valid connection agreement from a transmission system operator, or (ii) confirmation by a transmission system operator as being eligible to be processed to receive a valid connection offer. The Dublin Array project therefore is one of a number of projects that is eligible to be invited by the Minister pursuant to section 101 to apply for a MAC, within such period as the Minister's invitation may prescribe.

Subject to award of a MAC the proposed Dublin Array wind farm will still be required to apply for development consent to An Bord Pleanála similar to other strategic infrastructure projects developed (and under development). This development consent application will be subject to public consultation and independent environmental impact assessment by An Bord Pleanála.