Rampion 2 Wind Farm

Category 8: Examination Documents
Kingmere Marine Conservation Zone (MCZ): Without Prejudice Stage 2 MCZ Assessment (clean)

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A	03/06/2024	Deadline 4	GoBe	RED	RED
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Executive Summary

This Stage 2 Marine Conservation Zone Assessment (MCZA) has been produced for the purposed of supporting its position that the conservation objectives of the black seabream feature of the Kingmere MCZ will not be hindered by the Proposed Development.

This document details that there is:

- No other means of proceeding; and
- the benefit to the public of proceeding clearly outweigh the risk of damage to the MCZ.

This report is provided on a precautionary basis to demonstrate that the Secretary of State (SoS) can be satisfied that the conditions required for a derogation under section 126(7) of the MCAA are met in the event that it is necessary to apply them to the Proposed Development.

A **Without Prejudice Measures of Equivalent Environment Benefit (MEEB) Review for Kingmere Marine Conservation Zone (MCZ)** **[REP4-078]** (updated at Deadline 6) addresses the potential MEEB requirements and review of options for black seabream.

1. Introduction

1.1 Background

1.1.1 Rampion Extension Development Limited (hereafter referred to as 'RED') (the 'Applicant') is developing the Rampion 2 Offshore Wind Farm Project ('Rampion 2') located adjacent to the existing Rampion Offshore Wind Farm Project ('Rampion 1') in the English Channel.

1.1.2 Rampion 2 (hereafter referred to as 'the Proposed Development' will be located between 13 km and 26 km from the Sussex Coast in the English Channel and the offshore array area will occupy an area of approximately 160 km^2. A detailed description of the Proposed Development is set out in **Chapter 4: The Proposed Development, Volume 2** of the Environmental Statement (ES) **[APP-045]** (updated at Deadline 6), submitted with the Development Consent Order (DCO) Application.

1.1.3 In accordance with the Marine and Coastal Access Act 2009 (MCAA), a Stage 1 Marine Conservation Zone Assessment (MCZA) has been prepared as part of the DCO application. This application concludes that the conservation objectives of the Kingmere Marine Conservation Zone (MCZ) will not be hindered by the Proposed Development (**Draft Marine Conservation Zone assessment [APP-040]**).

1.1.4 Discussions with Natural England, the MMO and CEFAS on impacts to black seabream from underwater noise have taken place throughout the pre-application period of the Proposed Development, and include the following key milestones and documents:

- February 2021 – A threshold of 135 decibels (dB) SELss was suggested by the MMO as an appropriate threshold for the assessment of behavioural impacts of underwater noise on fish. **Evidence Plan (Part 2 of 11) [APP-244].**
- Feb 2022 – initial threshold of 147 dB SELss presented to expert topic groups. **Rampion 2 Technical Note: Additional underwater noise modelling of Appendix D, Evidence Plan (Part 1 of 11) [APP-243].**
- May 2022 – In an advice note to the Applicant, Natural England expressed the view that a piling restriction during the entirety of the breeding season is the only approach that provides certainty that black seabream will not be subject to behavioural disturbance. Natural England and the MMO raised concerns about the proposed behavioural noise threshold.
- July 2022 – first survey of ambient noise levels at the Kingmere MCZ site and within surrounding areas. This survey was undertaken over 15 days. Results are presented in **Appendix 8.3: Underwater noise study for seabream disturbance [APP-134]**.
- September 2022 - a revised behavioural noise threshold of 141dB was presented in the meeting as being at the precautionary end of the scale of potential response levels and was proposed by the Applicant as representing a

protective disturbance threshold. The MMO confirmed that it was comfortable with the use of the 141dB SELss noise level to inform the impact assessment but advised that discussions with Natural England would be required regarding mitigation.

- March 2023 - A further technical note, **Piling Noise and Black Bream: Further Information and Response Paper of Appendix D, Evidence Plan (Part 1 of 11) [APP-243]** was issued to stakeholders in March 2023, providing responses to the concerns raised on uncertainty within the assessment, baseline data, context from Rampion 1 and efficacy of mitigation measures.
- August 2023 – submission of the **In Principle Sensitive Features Mitigation Plan [REP5-082]** which sets out the full suite of proposed mitigation measures for black seabream as a feature of the Kingmere MCZ. These include a piling restriction in the western portion of the array from March through to June, and the use of DBBC and a combination of noise abatement/mitigation techniques to provide an additive level of noise attenuation in July. The Applicant has provided an updated **In Principle Sensitive Features Mitigation Plan [REP5-082]**, to reflect the predicted noise abatement that could be achieved at the Proposed Development site, as set out in **Information to support efficacy of noise mitigation / abatement techniques with respect to site conditions at Rampion 2 Offshore Windfarm [REP4-067]**.
- May 2024 – an additional report outlining the efficacy of the proposed mitigation measures at the Proposed Development site was submitted at Deadline 4, **Information to support efficacy of noise mitigation / abatement techniques with respect to site conditions at Rampion 2 Offshore Windfarm [REP4-067]**. This was produced by the Institute of Technical and Applied Physics (ITAP) who have conducted extensive immission and emission measurements for continuous noise and impulsive underwater noise in Germany.

1.1.5 However, the noise abatement measures proposed by the Applicant have not been agreed with Natural England which has maintained its position that the conservation objectives of black seabream (*Spondyliosoma cantharus)* within the Kingmere MCZ could be hindered unless a piling ban is implemented during the black seabream spawning period (1st March – 31st July).

1.1.6 The Applicant's position is that the conditions of section 126(6) of the MCAA (2009) are met, on the basis that the proposed mitigation measures as detailed in the In **Principle Sensitive Features Mitigation Plan [REP5-082]**, are defined based on a suitably precautionary behavioural effects threshold. The Applicant suggests the use of the disturbance threshold of 141 dB SELss (based on 44 cm seabass, as reported in Kastelien *et al*. (2017)) as suitably precautionary for an impact assessment on nesting black seabream. This is as the observed effects from underwater noise from pile driving on seabass were so minor (no sustained responses observed), there are unlikely to be any adverse effects on their ecology (such as sustained disturbance to nesting behaviours). As informed by Popper *et al*., (2014), behavioural disturbances are considered to be long term changes in behaviour and distribution, and should not include effects on single animals, or small changes in behaviour such as startle responses or minor movements. Therefore, this noise level is not considered to have any potential to trigger a

significant effect on the black bream population within the MCZ and nor is it even likely to have an individual effect on breeding success.

1.1.7 Without prejudice to that, this report is provided on a precautionary basis to demonstrate that the Secretary of State (SoS) can be satisfied that the conditions required for a derogation under section 126(7) of the MCAA are met in the event that it is necessary to apply them to the Proposed Development.

1.2 Purpose of this Document

1.2.1 The Applicant is providing this document to support its position that the conservation objectives of the black seabream feature of the Kingmere MCZ will not be hindered by the Proposed Development.

1.2.2 This document serves as part of a “Stage 2” MCZA. Section 126(7) provides a derogation process, which is engaged if the conditions of section 126(6) of the MCAA are not met. The derogation requires that three pre-conditions are satisfied:

(a) there is no other means of proceeding;

(b) the benefit to the public of proceeding clearly outweigh the risk of damage to the MCZ; and

(c) measures of equivalent environmental benefit ("MEEB") can or will be taken.

1.2.1 This document serves as part of a Stage 2 Marine Conservation Zone Assessment (MCZA) as part of this process and addresses parts (a) and (b).

1.2.2 The **Without Prejudice Measures of Equivalent Environment Benefit (MEEB) Review for Kingmere Marine Conservation Zone (MCZ) [REP4-078]** (updated at Deadline 6) addressing part (c) of the MEEB requirements for black seabream.

1.3 Proposed Development

1.3.1 Rampion Extension Development Limited (hereafter referred to as ‘RED’) (the Applicant) is developing the Proposed Development located adjacent to the existing Rampion Offshore Wind Farm Project (‘Rampion 1’) in the English Channel.

1.3.2 The Proposed Development will be located between 13km and 26km from the Sussex Coast in the English Channel and the offshore array area will occupy an area of approximately 160km^2.

1.3.3 The key offshore elements of the Proposed Development will be as follows:

- up to 90 offshore wind turbine generators (WTGs) and associated foundations;
- blade tip of the WTGs will be up to 325m above Lowest Astronomical Tide (LAT) and will have a 22m minimum air gap above Mean High Water Springs (MHWS);
- inter-array cables connecting the WTGs to up to three offshore substations;
- up to two offshore interconnector export cables between the offshore substations;

- up to four offshore export cables each in its own trench, will be buried under the seabed within the final cable corridor; and
- the export cable circuits will be High Voltage Alternating Current (HVAC), with a voltage of up to 275 kV.

1.3.4 The key onshore elements of the Proposed Development will be as follows:

- a single landfall site near Climping, Arun District, connecting offshore and onshore cables using Horizontal Directional Drilling (HDD) installation techniques;
- buried onshore cables in a single corridor for the maximum route length of up to 38.8km using:
    - trenching and backfilling installation techniques; and
    - trenchless and open cut crossings.
- a new onshore substation, proposed near Cowfold, Horsham District, which will connect to an extension to the existing National Grid Bolney substation, Mid Sussex, via buried onshore cables; and
- extension to and additional infrastructure at the existing National Grid Bolney substation, Mid Sussex District to connect the Proposed Development to the national grid electrical network.

1.3.5 A full description of the Proposed Development is provided in **Chapter 4: The Proposed Development, Volume 2** of the ES **[APP-045]** (updated at Deadline 6). The evolution of the Proposed Development proposed DCO Order Limits is detailed in **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** (updated at Deadline 6).

1.4 Consultation

1.4.1 The Applicant has engaged with Natural England, Sussex Inshore Fisheries and Conservation Authority (Sussex IFCA), and the MMO (and their advisors, Centre for Environment, Fisheries and Aquaculture Science (Cefas)) from the earliest stages of the EIA process.

1.4.2 This engagement has included focused discussions relating to the black seabream to seek agreement on potential mitigation measures as proposed in the **In-Principle Sensitive Features Mitigation Plan [REP5-082]**.

1.4.3 Consultation responses for the Stage 1 MCZA can be found in the **Consultation Report [APP-027]**.

MEEB Consultation

1.4.4 Through consultation with Natural England

Natural England maintains our advice that piling activities from 1st March to 31st July inclusive are likely to hinder the conservation objectives of Kingmere MCZ in relation to black seabream, and therefore a full seasonal restriction is needed. We note that the Applicant is still proposing piling activities during the sensitive season

*for black seabream. In the absence of any further mitigation being proposed, we welcome the Examining Authority's request (Question FS 1.1) (**Written Questions (WQs) [PD-009]**) for the Applicant to submit without prejudice options for Measures of Equivalent Environmental Benefit (MEEB) for consideration in the event of the Stage 2 MCZ Assessment reaching a negative conclusion.*

1.4.5 There has been no formal consultation phase for MEEB to date. The proposed MEEBs will be consulted on with the relevant SNCBs between Deadline 4 and Deadline 5 of the Examination process.

1.5 The Structure of this Document

1.5.1 This report is structured as follows:

- **Section 2**: identifies the relevant statutory framework and guidance and sets out some guiding principles of approach.
- **Section 3**: briefly describes the relevant MCZs and features affected, their condition, and value and function.
- **Section 4**: briefly describes the potential impacts of the Proposed Development on the relevant MCZ feature and proposed mitigation.
- **Section 5**: demonstrates No Other Means of Proceeding (OMP) for the Proposed Development.
- **Section 6:** demonstrates the clear public benefit of the Proposed Development
- **Section 7**: summarises the review process for MEEB and which measures have been taken through to the **Without Prejudice Measures of Equivalent Environment Benefit (MEEB) Review for Kingmere Marine Conservation Zone (MCZ) [REP4-078]** (updated at Deadline 6).
- **Section 8**: **Summary**
- **Section 9**: **Glossary of terms and abbreviations**
- **Section 10**: **References**

2. Legislation and Guidance

2.1 Marine and Coastal Access Act (2009)

2.1.1 Information on MCAA is detailed within the Stage 1 MCZA (**Draft Marine Conservation Zone assessment [APP-040]**).

2.1.2 With regard to MEEB, Section 126(7) of the Marine and Coastal Access Act (MCAA) 2009 states:

"…although the person seeking the authorisation is not able to satisfy the authority that there is no significant risk of the act hindering the achievement of the conservation objectives stated for the MCZ, that person satisfies the authority that:

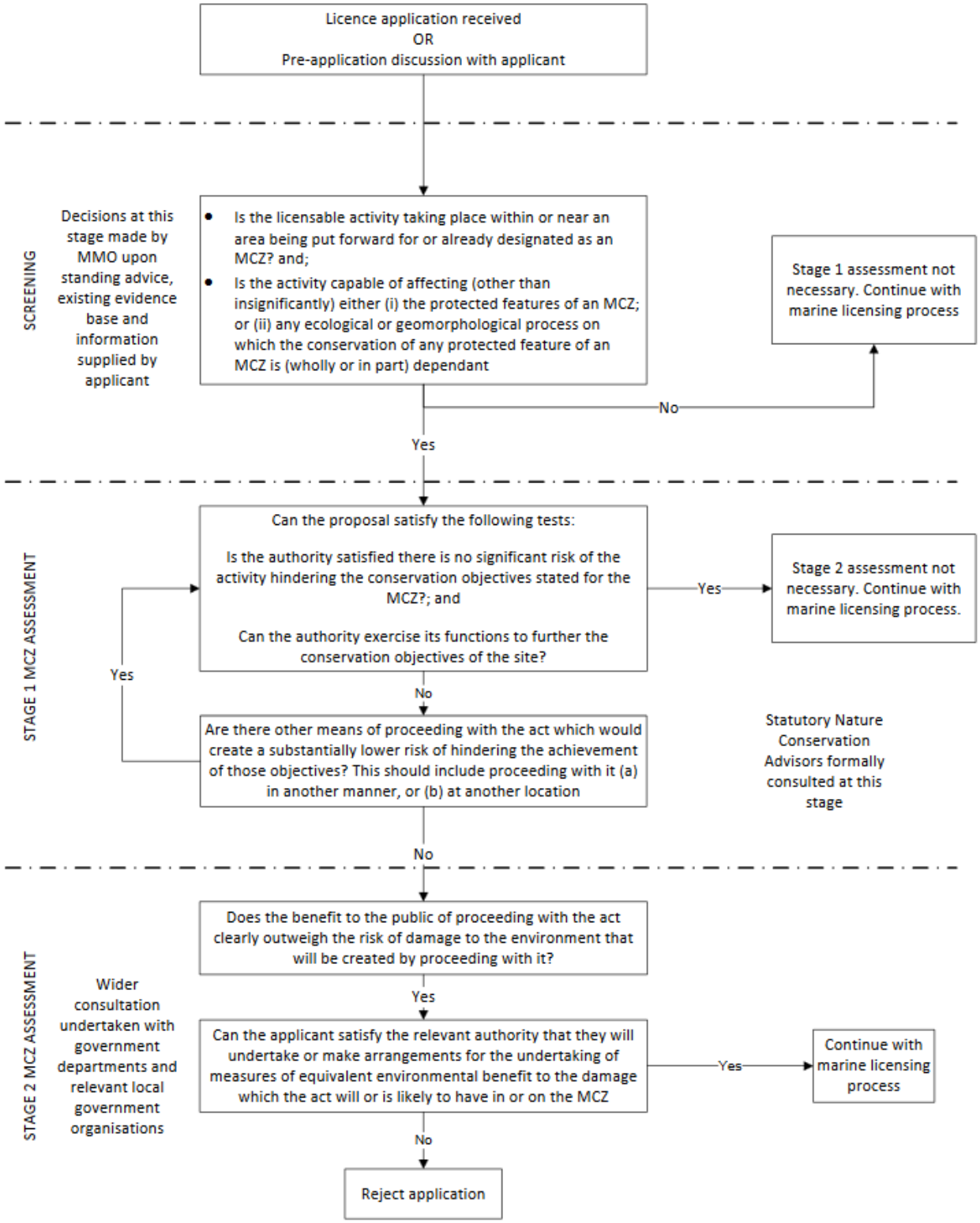
(a) there is no other means of proceeding with the act which would create a substantially lower risk of hindering the achievement of those objectives,

(b) the benefit to the public of proceeding with the act clearly outweighs the risk of damage to the environment that will be created by proceeding with it, and

(c) the person seeking the authorisation will undertake, or make arrangements for the undertaking of, measures of equivalent environmental benefit to the damage which the act will or is likely to have in or on the MCZ."

2.1.3 This document (**Sections 5** and **6**) addresses parts (a) and (b) and the **Without Prejudice Measures of Equivalent Environment Benefit (MEEB) Review for Kingmere Marine Conservation Zone (MCZ) [REP4-078]** (updated at Deadline 6) focuses on part (c) that may be required under Section 126(7) of the MCAA 2009.

Figure 2-1 Summary of the MCZ process used by the MMO (MMO, 2013)



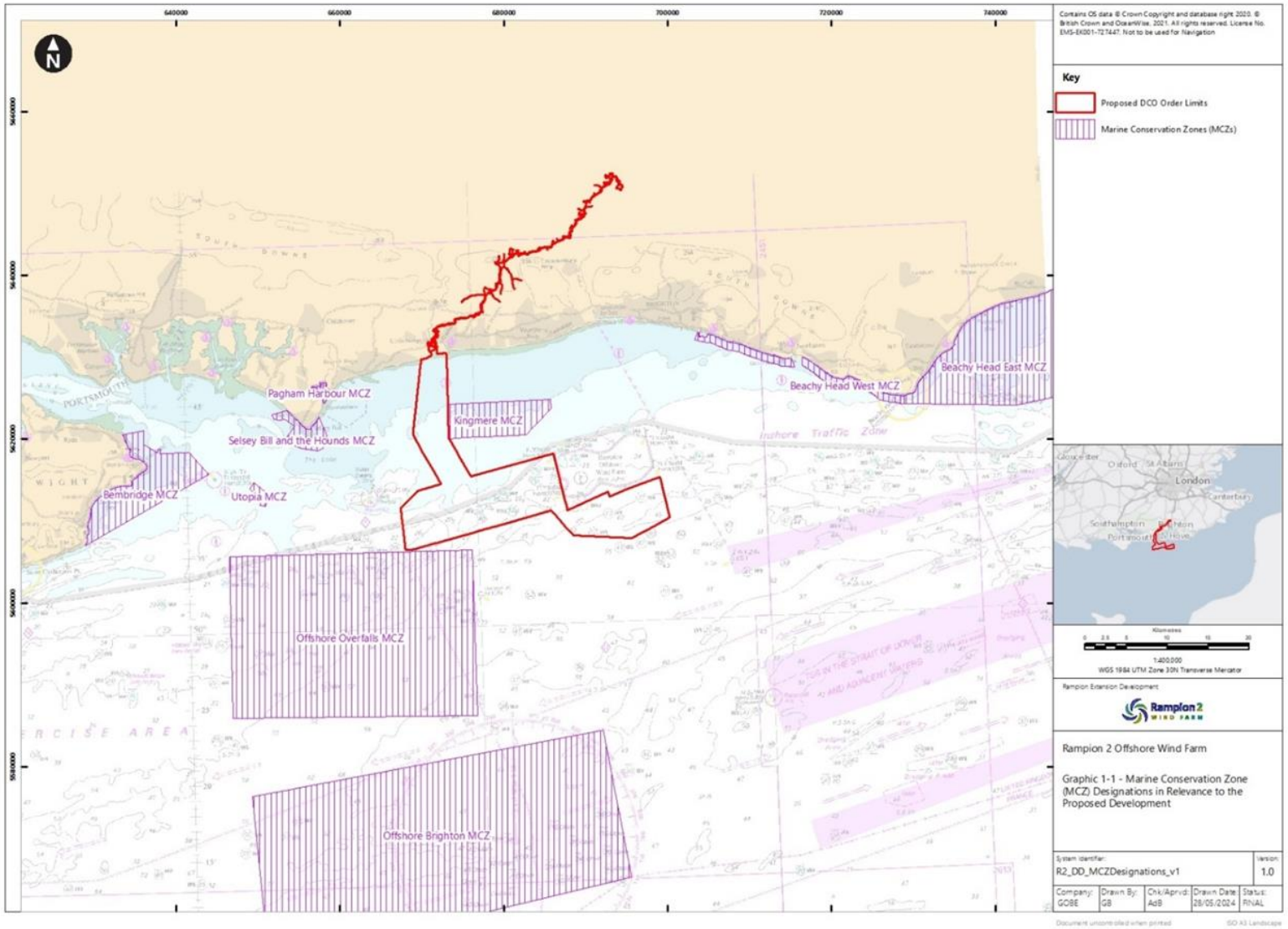
3. Sensitive Features of the Relevant MCZs

3.1.1 The relevant sensitive features of the impacted MCZs (see **Figure 3-1**) that are being considered within this without prejudice derogation case and for MEEB (if required) can be seen in **Table 3-1** below. **Section 4** details the impacts of Rampion 2 on these sensitive features.

Table 3-1 The relevant sensitive features of the impacted MCZs that are being considered within this without prejudice derogation case and for MEEB (if required)

Marine Conservation Zone	Relevant Sensitive Feature
Kingmere MCZ	Breeding Black seabream

Figure 3-1 MCZ designations relative to the Proposed Development



3.2 Kingmere MCZ

3.2.1 The Kingmere MCZ was designated during Tranche 1 in 2013. It is a 47 km^2 inshore site (within the territorial sea limit) which lies between 5 and 10 km offshore from the West Sussex coast, between Worthing and Littlehampton.

3.2.2 The Kingmere MCZ is made up of rocky habitat and subtidal chalk outcropping reef systems. These rocky habitats support a wide range of marine life including black seabream. This site is potentially one of the most important spawning sites for black seabream within UK waters.

3.2.3 Although the initial site selection for the Proposed Development, including the Offshore Export Cable Corridor area, has ensured avoidance of any direct overlap with the Kingmere MCZ, the site is in proximity to the Proposed Development area (**Figure 3-1**).

3.2.4 Features of the Kingmere MCZ:

- Black seabream (*Spondyliosoma cantharus*).
- Moderate energy infralittoral rock and thin mixed sediment.
- Subtidal chalk.

3.2.5 The conservation objectives of the relevant sensitive feature of the MCZ (black seabream) can be seen in **Table 3-2** below.

Table 3-2 The conservation objectives of the relevant sensitive feature of the MCZ (black seabream)

Feature	Feature Description	Conservation objective(s)	Feature Condition
Black seabream	Black seabream breed at various locations along the English Channel, and Kingmere is one of the longest studied black seabream breeding sites in the UK (Lythgoe and Lythgoe, 1971), (Pawson, 1995). Black seabream migrate within the English Channel, overwintering in the deeper (50 – 100m) waters of the western channel and moving into shallower inshore waters when water temperature increases (Pawson, 1995). The fish arrive and spawn in Kingmere in the	In relation to black seabream spawning habitat to *maintain the habitat in favourable condition if already in favourable condition*; or *bring into favourable condition if not already in favourable condition*. To ensure the black seabream population occurring in the MCZ be free of the disturbance of a kind likely to significantly affect the survival of its members	No current Marine Condition Assessment

Feature	Feature Description	Conservation objective(s)	Feature Condition
	spring/summer months, which has typically been between April and July with some evidence to suggest earlier arrival in March (Collins and Mallinson, 2012; Southern Inshore Fisheries Conservation Agency 2015; Doggett *et al.,* 2017; Seven Tenths Ecology, 2020). The spawning behaviour of black seabream is fairly unique amongst British finfish as they display 'nesting behaviour' which is highly selective (Pawson, 1995). This species requires a very specific habitat to build and maintain their nests: near horizontal bedrock with a thin layer of sediment. This substrate is most prevalent in the eastern half of the Kingmere MCZ.	or their ability to aggregate, nest, or lay, fertilise or guard eggs during breeding. For the spawning habitat of black seabream within the MCZ, favourable condition means that the habitat is of sufficient quality and quantity to enable individuals of this species using the habitat to survive, aggregate, nest, lay, fertilise or guard eggs during breeding.	

3.3 Value and Function of the Sensitive Feature

Black Seabream

3.3.1 As noted in **Section 3.2** above, Kingmere MCZ was designated in part to protect areas of spawning importance in the region for this species, although areas outside of the designated site also provide suitable habitat and support active spawning of black seabream.

3.3.2 It is reported that the black seabream stock within the English Channel area overwinters in water depths of between 50 to 100 m, prior to migrating inshore to breed between May and June in suitable habitats (Vause and Clark, 2011). The specified breeding season, and therefore sensitive period for black seabream in this area, was considered (up to 2020) as being between 01 April and 30 June, however this has since been updated (in 2021) to reflect an extended breeding season between 01 March and 31 July (Natural England, 2021).

Distribution in Relation to the Proposed Development

3.3.3 Black seabream nests have been recorded within the Offshore Export Cable Corridor area through targeted repeat aggregate industry surveys (EMU Ltd, 2009;

Fugro EMU Ltd, 2013; 2014), as well as the Proposed Development specific geophysical and benthic surveys undertaken in 2020 and 2021. Recognising that the wider area in the vicinity of the Kingmere MCZ is known to support black seabream spawning (nesting), there is a focus for the mitigation on the MCZ itself as it is within this site that specific protection is afforded to the species during the spawning season.

3.3.4 Pre-construction fish surveys were carried out for Rampion 1 offshore windfarm in September/October 2015 and May 2016, with post-construction monitoring of fish undertaken in November 2019 and May 2020. Otter and epibenthic scientific beam trawls were used to provide an assessment of any long-term changes in the fish and shellfish communities of the Rampion 1 offshore windfarm. Results from the surveys indicated significant changes in the abundance of a range of fish and shellfish species between pre- and post-construction surveys, seasons, and treatment areas, notably including an increase in black seabream abundance post-construction, however these changes were also reflected in data from the reference stations, suggesting the differences recorded were likely attributable to natural variation rather than effects from the development of Rampion 1.

3.3.5 Black seabream require particular environmental conditions for spawning and to build and maintain their nests. They will migrate to shallow coastal waters where they will seek out suitable substrate (Dipper, 2001). The substrate required for nesting is hard rock (bedrock or compacted gravels) overlain with a shallow veneer of sediments made up of sands and gravel. The male will typically build circular craters 1–2m wide, and 5–30cm in depth by creating a depression in the substrate (Collins and Mallinson, 2012). The male will remove any algal turf that is present and will constantly maintain the nest by ensuring wayward gravel particles are removed. Substrate availability is a key factor the nesting behaviour of black seabream, but water temperature, ocean acidification, and visual and olfactory cues also play a role in triggering spawning (Neves *et al*., 2018).

Value of Black Seabream

3.3.6 Black seabream are recognised as a significant interest to commercial and recreational fishers with spawning grounds within the region that are considered important within regional Marine Plan Policies (South Inshore and South Offshore Marine Plan (MMO, 2018)).

3.3.7 Black seabream were once rare in British waters, but their population in the English Channel has increased over the past century; in the late 1970s and early 1980s black seabream were heavily exploited. The majority of the black seabream catch occurs in the eastern side of the English Channel, peaking between April and June. Outside of 6nm seabream are harvested by French vessels using bottom trawls whilst inshore, English vessels also take seabream using demersal trawls and to a lesser extent nets.

3.3.8 Black seabream are a data-limited species and the stock status is unknown. Black seabream are not managed under a Total Allowable Catch or minimum landing size. The EU mandates that any towed gear used to catch seabream must have a mesh size >80mm and seabream must form a minimum of 70 percent of the catch. For static/fixed gear used to catch black seabream, the minimum mesh size is 120mm. These measures are designed to protect juvenile seabream. MMO

landings data indicates negligible commercial fishing landings of black seabream by UK-registered vessels since 2018.

3.3.9 At a local level, the Sussex IFCA restricts fishing in the Kingmere MCZ, located to the east of the Offshore Export Cable Corridor, that protects important nesting areas for black seabream. Between April and June, trawling and netting are completely excluded from the site. Outside of this period trawlers are excluded from everywhere within the MCZ with the exception of the paleochannel. Potting, lining and dive gathering are excluded from two thirds of the site whilst anglers are excluded from one third of the site and have a year-round bag limit of four seabream per person per day (see **Figure 3-2** and **Figure 3-3**). Outside of the main spawning season (July to March), the angling bag limit still stands. However, anglers, potters, netters, liners and dive gatherers can then use the whole site.

3.3.10 Black seabream is a species that is popular amongst recreational anglers. However, there is limited information on the numbers of recreational anglers using Kingmere MCZ or those who fish for the species further afield. The Sussex IFCA Impact Assessment (2015) noted that although the Kingmere MCZ site is popular amongst anglers for a variety of species, the number of anglers is unknown.

Figure 3-2 Seasonal restrictions for different fishing activities for black seabream in the Kingmere MCZ (Sussex IFCA 2024)

1st April-30th June Bream Season Management

	Towed gear	Netting gear	Potting & trap gear	Lining	Angling	Dive gathering
Zone 1	X	X	X	X	X	X
Zone 2	X	X	X	X	✓4	X
Zone 3	X	X	✓0	✓0	✓4	✓0
Zone 4	X	X	✓0	✓0	✓4	✓0

Key:

- X Prohibited
- ✓4 Open but maximum of 4 bream per person bag limit
- ✓0 Open but no retention of bream

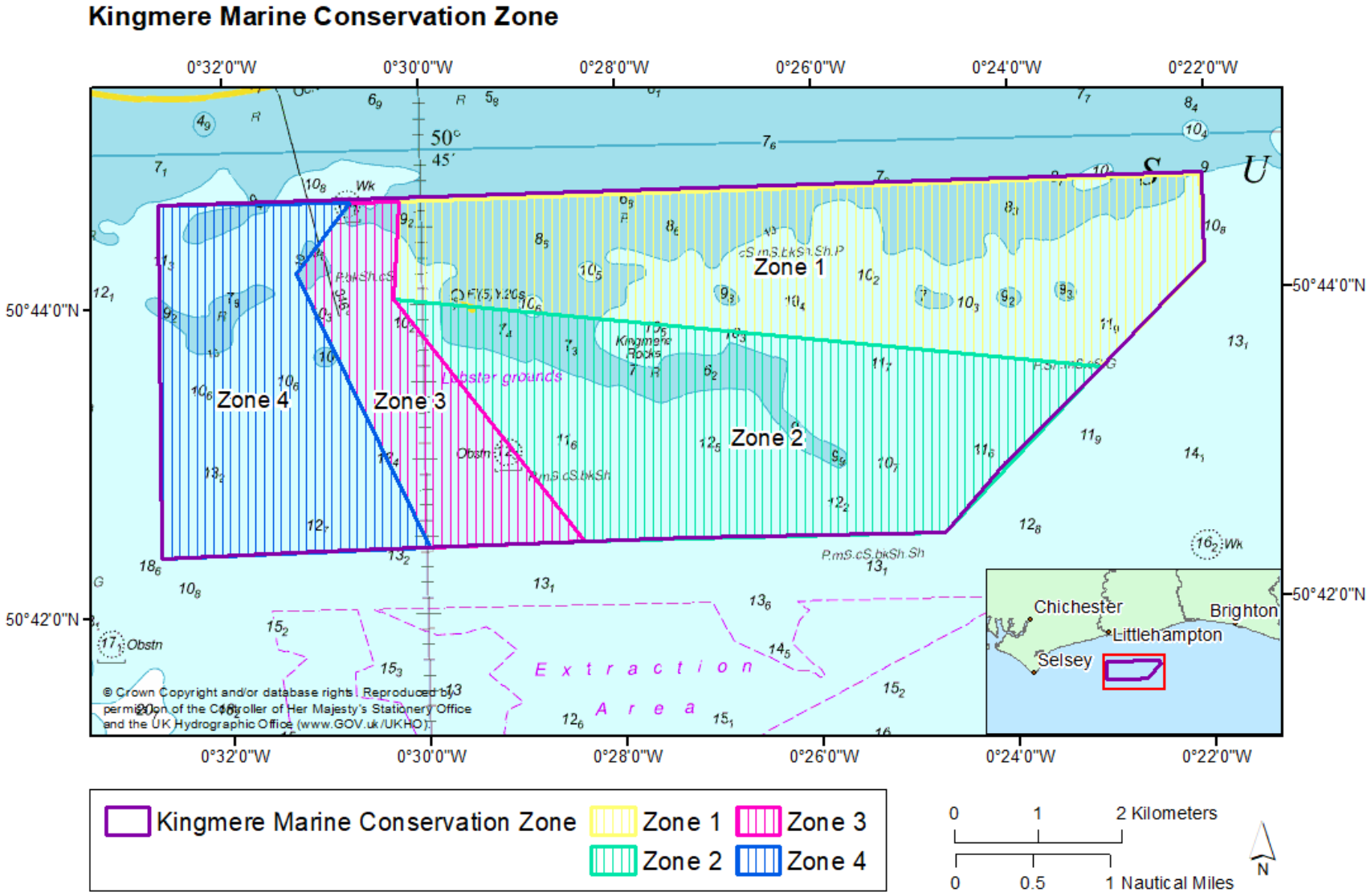
1st July-31st March Management

	Towed gear	Netting gear	Potting & trap gear	Lining	Angling	Dive gathering
Zone 1	X	✓	✓	✓	✓4	✓
Zone 2	X	✓	✓	✓	✓4	✓
Zone 3	✓	✓	✓	✓	✓4	✓
Zone 4	X	✓	✓	✓	✓4	✓

Key:

- X Prohibited
- ✓ Open
- ✓4 Open but maximum of 4 bream per person bag limit

Figure 3-3 Fishing activity zones in the Kingmere MCZ (Sussex IFCA, 2024)



4. The Proposed Development's Implications on the Sensitive Feature

4.1.1 This Section describes the impact of the Proposed Development on the sensitive feature of the relevant MCZ (Kingmere) that is being considered within this without prejudice derogation case (see **Table 4-1**).

4.1.2 As presented in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[REP5-027]** (updated at Deadline 6), the assessment identified that the installation of foundations at Rampion 2 by percussive piling, and assuming the maximum design scenario, had the potential to result in significant effects in the absence of further mitigation. Potential significant effects arising from behavioural/disturbance levels of noise from piling works were identified for:

- Breeding black seabream as a qualifying feature of the Kingmere MCZ

4.1.3 The approach to applying noise abatement technologies for piling, and subsequent development of a spatial and temporal zoning plan for the Proposed Development Offshore Array Area is set out in **Section 5** of the **In-Principle Sensitive Features Mitigation Plan [REP5-082]**. The zoning plan will delimit areas of the Offshore Array Area where piling can be undertaken, either with or without the application of noise abatement measures, to meet noise emission mitigation target values during sensitive periods for sensitive receptors, i.e., black seabream at Kingmere MCZ during the spawning/nesting season.

4.1.4 Below is a summary of the individual commitments made by the Applicant to mitigate against noise impacts from piling activities on black seabream from the development of the Proposed Development:

- **C-265** Double big bubble curtains will be deployed as the minimum single offshore pilling noise mitigation technology to deliver underwater noise attenuation for all foundation installations throughout the construction of the Proposed Development where percussive hammers are used in order to reduce predicted impacts to:
    - sensitive receptors at relevant Marine Conservation Zone (MCZ) sites and reduce the risk of significant residual effects on the designated features of these sites;
    - spawning herring; and
    - marine mammals.
- **C-274** Commitment to commence piling at locations furthest from the Kingmere MCZ during the black seabream breeding period (March-July), to reduce effects from installation works on breeding black seabream within or outside of the Kingmere MCZ.
- **C-280** Commitment that no piling will occur in the piling exclusion zones during the seabream breeding period (March-July) which will be defined by the modelling in the Final Sensitive Features Mitigation Plan.

- **C-281** Commitment to no piling within the western part of the Rampion 2 Offshore Array Area closest to the Kingmere MCZ during the majority of the black seabream breeding period (March-June); and sequenced piling in the western part of the Offshore Array Area during July in accordance with the zoning plan to be set out in the Final Sensitive Features Mitigation Plan, to reduce the risk of significant effects from installation works on breeding black seabream within or outside of the Kingmere MCZ.

4.1.5 **Table** 4-1**4-1** below describes the impacts relevant to this without prejudice Stage 2 MCZ Assessment for which MEEB may be applied (if required).

Table 4-1 Impacts relevant to this without prejudice Stage 2 MCZ assessment

Activity and impact	Feature	Magnitude of impact	Receptor Sensitivity	Embedded environmental measures and mitigation	Summary of Stage 1 MCZA
Mortality, injury, behavioural changes and auditory masking arising from noise and vibration during construction (piling)	Black seabream	**Mortality and potential mortal injury:** Negligible **Recoverable injury:** Negligible **TTS:** Negligible **Behavioural effects:** Negligible	**Medium**	C-265, C-274, C-280, C-281	**Not Significant** with embedded environmental measures and will not hinder MCZ objectives

4.1.6 Full details of all potential assessed impacts to components of the designated features are presented in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[REP5-027]** (updated at Deadline 6). Full details of the impacts assessed for the relevant MCZs can be found in the **Draft Marine Conservation Zone assessment [APP-040]**.

4.1.7 Natural England disagree that there is sufficient certainty that the mitigation measures proposed by the Applicant in the **In Principle Sensitive Features Mitigation Plan [REP5-082]** will reduce the potential effects of underwater noise on black seabream as a feature of the Kingmere MCZ, to a not significant level. It is on this basis, that the without prejudice Stage 2 assessment has been taken forward.

5. Other Means of Proceeding (OMP)

5.1 Introduction

5.1.1 The legal and regulatory background for the without prejudice assessment are set out above in **Section 2** of this document. Full details of the maximum design scenario (worst-case) assumptions for the assessment of potential effects on the black seabream feature of the Kingmere MCZ, along with details of the assessment of significant effects arising from potential noise impacts are set out within the Environmental Statement **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]** (updated at Deadline 6) and subsequently the MCZ assessment **Draft Marine Conservation Zone assessment** **[APP-040]** submitted alongside the DCO Application.

5.1.2 **Section 5** (this part) of the without prejudice Stage 2 MCZ assessment now examines the need for the Proposed Development and whether there are any feasible Other Means of Proceeding (OMP). It is demonstrated with evidence to the SoS that there are no OMP which meet the Proposed Development objectives.

5.1.3 It is of note that the “need” for the Proposed Development presented in this section, overlaps to some extent with the Clear Public Benefit detailed in **Section 6**. Both consider climate change and national actions and polices. However, the Clear and Public Benefit focuses further on national imperative and specific needs of the public, whilst the “need” that informs the assessment of alternatives, has greater emphasis on technology and carbon neutral power capacity required to meet national targets. Where greater detail is provided in another section, this has been referred to.

5.1.4 A large range of alternatives have been identified, considered, and discounted. These range from “doing nothing”, to alternative sites, routes, designs, scales and working methods.

5.2 Content and Structure

5.2.1 The SoS must be satisfied that there is no OMP with the "act" that would create a substantially lower risk of hindering the achievement of the conservation objections for the Kingmere MCZ.

5.2.2 The MCAA states that the decision-maker is directed to consider "*other means of proceeding*", in (a) "*in another manner*", or (b) "*at another location”*. These have been considered along with a ‘Do Nothing’ scenario.

5.2.3 OMP has been considered in a broadly similar way as the approach to consideration of "*alternative solutions*" under Article 6(3) of the Habitats Regulations (known as ‘derogation’), to ensures a comprehensive and robust analysis.

5.2.4 The Defra 2021 guidance states:

MPAs are designated under different legislation. However, as all sites contribute to the ecologically coherent network of MPAs and therefore to overall network integrity, the impact of a development within an MPA should be considered in a consistent way, regardless of the legislation used to designate it. It is anticipated that the approach taken by responsible authorities will be as similar as possible between MPAs, subject to the requirements of the relevant legislation and case-law. Defra would therefore urge responsible authorities to consider all relevant legal principles under MCAA or the Habitats Regulations when making decisions for development affecting any MPA

5.2.5 With limited prescriptive legislation for OMP, the approach adopted by the Applicant has been principally guided by UK and EC guidance and opinions, as well as UK planning decisions.

5.2.6 Recognising that the case for OMP can be a multi-staged process, the Applicant has adopted the four principal steps set out below which consider the potential OMP in a structured and sequential process:

- Step 1: Define the objectives or purpose of the project;
- Step 2: understand the need for the project;
- Step 3: Are there financially, legally, and technically feasible alternative solutions; and
- Step 4: Are there alternative solutions with a significantly lesser effect on hindering the achievement of the MCZ's conservation objectives.

5.2.7 The assessment of OMP is supported particularly by 'The Need' for the Proposed Development, which is provided in **Section 5.3** (Step 1 – the core objectives of Rampion 2) below.

5.3 Step 1 – the core objectives of Rampion 2

5.3.1 It is clear from the need described the section below (**Section 5.4**) that offshore wind must be deployed urgently and at scale.

5.3.2 Whilst based on the HRA process, the David Tyldesley Associates (DTA) HRA Handbook is considered relevant to the MCZ process, particularly when considering the linkages identified within the Defra (2021) draft guidance. The handbook demonstrates project need by considering the following four objectives as a "helpful starting point", based on Hornsea Three objectives:

- "*To generate low carbon electricity from an OWF in support of the decarbonisation of the UK electricity supply;*
- *To export electricity to the UK National Grid to support UK commitments for offshore wind generation and security of supply;*
- *To optimise generation and export capacity within the constraints of available (UK) sites and onshore transmission infrastructure; and*
- *To help deliver Government target for five-fold increase in offshore wind by 2030*."

5.3.3 Whilst the above four objectives are a good starting point, the following additional objectives are also relevant to the Proposed Development (as an Extension project):

- to maximise renewable energy generation at optimal UK seabed locations; and
- to maximise the use of existing infrastructure.

5.3.4 These six objectives provide a set of criteria for demonstrating the Proposed Development's contribution towards key public-interest outcomes such as:

- decarbonisation;
- maximising provision of Renewable/ Wind Generated Electricity; and
- Electricity Supply Resilience

Relevant works and residual potential harm

5.3.5 The relevant works and residual potential harm to the sensitive feature of the Kingmere MCZ is discussed in **Section 4**.

5.4 Step 2 – The need

Approach

5.4.1 This Step identifies the need / problems that the project is designed to address / solve.

Clear and urgent need for the Proposed Development

5.4.2 With a current estimated capacity of 1200 MW, the Proposed Development will make meaningful and timely contributions to UK decarbonisation and security of supply, while significantly contributing to lower bills for consumers throughout its operational life, thereby addressing all important aspects of existing and emerging UK Government policy.

5.4.3 The urgent need for the Proposed Development, as detailed within this section, is encompassed by five clear requirements:

- Decarbonisation: The Proposed Development will deliver significant quantities of low-carbon electricity from as early as the late 2020s. This is in line with the UK's Committee on Climate Change (CCC)'s recent identification of the need for urgent action to increase the pace of decarbonisation in the Great Britain (GB) electricity sector (CCC, 2022).
- Wind generated electricity: Greater energy generation from offshore wind is critical for both the reduction of electricity related emissions, as well as providing a timely contribution to a massive increase in electricity demand due to electrification of transport, heat and industrial demand. A step change in offshore wind has been led by the government capacity targets of 50GW from offshore wind 2030 (UK Government, 2022).

- Resilience of electricity system: The Proposed Development will make a significant contribution to the UK's energy security from the late 2020s. By being connected at the transmission system level, the Proposed Development will play an important role in the resilience of the GB electricity system from an adequacy and system operation perspective.
- At scale: The Proposed Development is a substantial infrastructure asset capable of delivering significant quantities of low carbon electricity. Rampion 2 is expected to provide enough green electricity to power more than one million UK homes, maximising the capacity of generation in the wind-rich, accessible, and technically deliverable proposed location, to the benefit of all UK consumers.
- Competitive: The highly competitive Contract for Difference (CfD) allocation in 2019 specifically accelerated the deployment of offshore wind, with costs falling by two thirds in the last five years. The Proposed Development would therefore provide highly competitive electricity compared to conventional and low-carbon generation, both in GB and more widely.

Decarbonisation

5.4.4 Decarbonisation is the act of reducing the carbon footprint (primarily in the form of greenhouse gas emissions) arising from the use of energy in society, to reduce the warming impact on the global climate. The Proposed Development is a major renewable energy infrastructure project with an anticipated capacity of up to 1200MW of low-carbon energy, which will provide a significant contribution towards the process of decarbonisation (by around 1.8 million tonnes per year) of energy consumption in the UK, as part of a far greater global aim to address climate change.

5.4.5 Human-induced warming has reached approximately 1ºC above pre-industrial levels and without a significant and rapid decline in emissions across all sectors, global warming is not likely to be contained (IPCC, 2021). The impacts of climate change are global in scope and unprecedented in human existence. Decarbonisation is already a global challenge, but our efforts, and those of future generations, will need to accelerate if urgent and meaningful actions are not set in motion now so that they can deliver in the critical 2020s and beyond (further consideration on the global imperative is provided in **Section 6**).

5.4.6 Any delay in reducing carbon emissions today results in greater carbon emissions to the atmosphere, higher global temperature rises and an increased level of and speed of action required to halt impacts. A rise in global temperatures above 1.5°C has potential to cause irreversible climate change, the potential for widespread loss of life and severe damage to livelihoods. Yet greenhouse gases projected at a global scale (using Nationally Determined Contribution (NDCs)) are now set to exceed 1.5°C by 2030 and look increasingly likely to exceed 2°C after 2030 (IPCC, 2021). Therefore, any delays incurred now, make the challenge significantly more difficult for the years ahead.

5.4.7 As such, the UK, has declared, in common with many other countries, that we face a global "climate change emergency" (UK Parliament, 2019). By definition, an

emergency is a grave situation that demands an urgent response and legal obligations have been committed to as follows:

- International: the United Nations Framework Convention on Climate Change led Paris Agreement (2015); and
- UK: the Climate Change Act 2008 (as amended) and Glasgow Climate Pact (2021) (including Scotland and UK).

5.4.8 These legal instruments provide the commitments to become carbon neutral, i.e., to reach "Net Zero" by the middle of the 21st century internationally, by 2050 in the UK; and with interim targets. However, the UK is not currently on track to meet the fourth (2023-2027) or fifth (2028-2032) carbon budgets and requires more challenging measures (Climate Change Committee, 2020).

5.4.9 Decarbonisation cannot be allowed to fail, and urgent actions are required in the UK and abroad, to keep decarbonisation on track and limit global warming. In order to meet the Net Zero target, a radical transformation to our national energy ecosystem is required, meaning even more low-carbon, wind and solar generation capacity than even the most ambitious scenarios currently envisage, will be required to meet the UK's legally binding targets as set out by the Climate Change Act 2008 (as amended). The Proposed Development is designed to meet this imperative and enacts such fundamental and urgent national objectives articulated at the highest level in legislation and policy documents.

Wind Generated Electricity

The Need for Offshore Wind

5.4.10 Offshore wind generation is an essential element of the UK's response to the climate emergency and the Proposed Development is particularly well placed to generate low carbon electricity from the plentiful wind in its surrounding waters.

5.4.11 The adoption of the Net Zero commitments requires a substantial reduction in the carbon emissions from transport, heat and industrial emissions. This in turn is expected to create a significant and additional demand for low-carbon electricity in the 2030s and 2040s. This additional demand places a new urgency on the development of new and additional sources of low-carbon electricity that must be established in the 2020s in order to meet the 2050 target for Net Zero, as well as interim targets. As such, the Clean Growth Strategy (BEIS 2017) provides measures to decarbonise all sectors of the UK economy through the 2020s and beyond. This includes an ambitious Sector Deal for offshore wind.

5.4.12 Greater energy generation from offshore wind is therefore important not only to reduce electricity-related emissions, but also to provide a timely next-step contribution to a future generation portfolio which is capable of supporting the massive increase in electricity demand, which is expected because of decarbonisation through-electrification of transport, heat and industrial demand. This requires urgent action at an unprecedented pace, with analysis of the National Grid Electricity System Operator (NGESO) data identifying that net negative emissions are required to ensure meeting the UK net zero target for 2050 (National Grid ESO, 2022).

UK Policy Framework

5.4.13 In the UK, specific need for offshore wind was established by the Ten Point Plan (BEIS, 2020b) and committed to in the UK Offshore Wind Sector Deal (BEIS 2019), with a target of 40GW powered by offshore wind by 2030. This was further reiterated in the 2020 Energy White Paper (BEIS, 2020c) and the UK Government's Net Zero Strategy for the UK, Build Back Greener (BEIS, 2021a).

5.4.14 However, the National Policy Statement (NPS) EN-1 (DESNZ, 2024a) set out a need for substantially more installed offshore capacity to achieve Net Zero by 2050 and the target has since increased to 50GW in the Prime Minister's British Energy Security Strategy (UK Government, 2022), with an aim for 5GW from floating wind (HM Government 2022). This pledge represents scaling up the UK's current installed offshore wind capacity by a factor of almost five times within the next eight years (to 2030) and reflects the Government's aim to accelerate its journey to deliver Net Zero greenhouse gas emissions by 2050.

5.4.15 The NPS EN-1 (DESNZ, 2024a), states that there is a critical national priority (CNP) for the provision of nationally significant new offshore wind infrastructure (and supporting onshore and offshore network infrastructure). The CNP is elaborated on within EN-3, where it states that subject to any legal requirements, the urgent need for CNP Infrastructure to achieving our energy objectives, together with the national security, economic, commercial, and net zero benefits, will in general outweigh any other residual impacts not capable of being addressed by application of the mitigation hierarchy. The Government strongly supports the delivery of CNP Infrastructure and it should be progressed as quickly as possible.

5.4.16 Build Back Greener goes on to recommend actions to be taken so that by 2035, all the UK's electricity will come from low carbon sources, including offshore wind. These ambitions are further drawn on in the currently National Policy Statements for England and Wales (DESNZ 2024a; DESNZ, 2024b). The National Infrastructure Commission (NIC) has recently increased its recommended UK renewables deployment target from 50% to 65% by 2030 (NIC, 2020).

5.4.17 However, NGESO goes further in detailing the future capacity required in the UK. NGESO's Future Energy Scenarios (FES) details that to achieve Net Zero targets, offshore wind capacities will be required at 38 – 47GW in 2030, 68 – 83GW in 2040, and 87 – 113GW by 2050 (National Grid, 2022). In every scenario, a pathway to Net Zero includes a significant increase of offshore wind capacity beyond that predicated in the Sector Deal.

5.4.18 Therefore, planning for a much larger offshore wind capacity than provided for in the various targets is necessary to meet Net Zero, as now reflected in the UK target for 50GW. This increased target responds to the UK Climate Change Committee (CCC)'s 2019 Report (CCC, 2019), where they advise that consistently strong deployment of low-carbon generation in the lead up to 2050 will be required to meet Net Zero, including "…at least 75GW of offshore wind." In the most recent CCC report (CCC, 2021), the CCC emphasise that in order to achieve Net Zero there is a required "rapid scale up in low carbon investment….and speed up the delivery which will need to accelerate even where ambition is broadly on track.

For example, although the Government's 2030 target for offshore wind is in line with the CCC pathway, a minimum of 4GW of additional offshore wind capacity will

be needed each year from the mid-2020s onwards, significantly greater than the current 2GW per year".

Low or No Regret Options

5.4.19 The UK Net Zero Strategy (BEIS 2021a) makes a case for a low or no regrets approach to decarbonisation. This framework, set by the Nation Engineering Policy Centre (NEPC) (2017) promotes rapid decision making in net zero policy to take urgent action. Such an approach now supports offshore wind, meeting the essential criteria to: play a major part in reducing UK carbon emissions; unlock low carbon pathways in the future; reduce costs in future to floating offshore wind and to the consumer; make the best use of the available resource, using the limited seabed areas leased by The Crown Estate (TCE); and have clear co-benefits in electrifying heat and transport.

5.4.20 Extensions to operational wind farms have proven to be a successful way of efficiently developing more offshore generating capacity (e.g. Burbo Bank Extension, Kentish Flats Extension, and Walney Extension). The Proposed Development is an Extension project which meets the TCE's specified application criteria and was granted a lease in August 2019.

5.4.21 Extension projects take advantage of the technological gains made since the original installations were made. They benefit from existing infrastructure, real life experience of working on site, earlier geological and environmental studies and direct experience of the wind resource through existing wind turbine performance (TCE, 2019).

5.4.22 The wind farm extensions, which together offer significant generation potential, will also play a key part in building the industry scale necessary to meet the government's climate change targets. Scale is crucial to delivering further cost reductions, making offshore wind ever cheaper. Not only are offshore wind turbines becoming larger and more efficient, but a larger UK offshore wind industry with a proven track record de-risks future projects.

5.4.23 Given the pre-existing knowledge of the sites, wind farm extensions represent a low risk and low-cost option for the UK.

Resilience of Electricity System

5.4.24 As part of a diverse generation mix, wind generation contributes to improve the stability of capacity utilisations among renewable generators. By being connected at the transmission system level, large-scale offshore wind generation can and will play an important role in the resilience of the GB electricity system from an adequacy and system operation perspective.

At Scale

5.4.25 Internationally, and importantly, the UK is leading in offshore wind generation. UK offshore wind projects are increasing in capacity and decreasing in unit cost. Hitherto, each subsequent project has provided a real-life demonstration that size and scale works for new offshore wind, for the benefit of consumers. Other conventional low-carbon generation (e.g. tidal, nuclear or conventional carbon with

Carbon Capture, Utilisation and Storage (CCUS)) remain important contributors to achieving the 2050 Net Zero obligation, but their contributions will not be significant in the 2020s due to the associated technical, commercial and development timeframes. However, many more projects than those currently in development pipelines will be required to meet Net Zero.

Competitive

5.4.26 Cost reduction and affordability are particularly important in the context of OWF development. UK government policy and regulatory objectives seek to ensure affordability to consumers, through the CfD auction process (generation assets) and Offshore Transmission Owner (OFTO) regime (offshore transmission assets). In broad terms, both seek to incentivise investment in low carbon electricity generation and transmission assets, ensure security of supply and help the UK meet its carbon reduction and renewables targets, whilst reducing cost to the consumer. A highly competitive CfD allocation round took place in 2019 to specifically accelerate the deployment of offshore wind, with costs falling by two thirds in the last five years. As such, offshore wind is already highly competitive against other forms of conventional and low-carbon generation, both in GB and more widely.

Summary

5.4.27 Offshore wind generation excels above all other power generation as being economically and technically viable in the UK, and that it is economically and technically preferential against other low carbon options, for the UK electricity consumer.

5.4.28 Full utilisation of optimal seabed locations through extending existing projects (Extensions) represent a lower risk and lower cost option for the UK.

5.4.29 The Proposed Development is therefore a critical, 'easy win' option to deliver urgent and necessary decarbonisation actions in the critical 2020s to halt climate change. However, decarbonisation does not stop in 2030 but continues with urgency until stable global temperatures are achieved, and because of the cumulative warming effect of atmospheric carbon, every moment's delay makes that achievement more difficult and potentially further into the future. Early action will have a correspondingly more beneficial impact on our ability to meet Net Zero targets than will later action. It will also bring wider benefits, as discussed within **Section 6; Clear Public Benefits**.

5.5 Step 3 - Consideration of Other Means of Proceeding

Scope of alternatives consideration

5.5.1 In his decision on Hornsea Three, the SoS published the following advice on the scope of alternatives that required consideration:

"*The Secretary of State does not consider the development of alternative forms of energy generation to meet the objectives for the Project. Alternatives to the Project*

considered by the Secretary of State are consequently limited either to Do Nothing or to alternative wind farm projects.

Alternative types of wind farm projects considered are:

- Offshore wind farms not in UK Exclusive Economic Zone (EEZ);
- Offshore wind farms within UK EEZ, including:
    - At other locations available to the Applicant;
    - Within other Zones leased from The Crown Estate by other developers;
    - Within Zones to be leased by The Crown Estate under the Licensing Round 4"

5.5.2 The Applicant agrees with the decision of the SoS for Hornsea Three described above in **paragraph 5.5.1** and has therefore limited the consideration of alternatives for the Proposed Development to:

- Do Nothing
- Alternative types of wind farm projects which are:
    - Offshore wind farms not in UK EEZ;
    - Offshore wind farms within UK EEZ, including:
        - At other locations available to the Applicant;
        - Within other Zones leased from The Crown Estate by other developers;
        - Within Zones to be leased by The Crown Estate under the Licensing Rounds 4 and 5.

Do Nothing

5.5.3 In the context of the Proposed Development, the "do nothing" option would comprise not proceeding with the project at all. This would remove any possibility of harm to Kingmere MCZ. However, the requirement for the Proposed Development, and its core objectives would not be met.

5.5.4 The 'do nothing scenario' can be immediately discounted as it would not meet any of the core project objectives for the Proposed Development and would (at best) ignore and (at worst) hinder efforts to respond to the clear and urgent need for offshore wind deployment at scale, before 2030, to help the UK to meet its legally binding target of net zero by 2050, to mitigate the effects of climate change.

5.5.5 To do nothing is not a realistic option unless one ignores a raft of government policy: NPS EN-1 and EN-3, the net zero by 2050 commitment, and the UK government's commitment to deliver 50 GW of offshore wind by 2030, as set out in the UK governments British Energy Security Strategy (UK Government, 2022). There is an imperative need for renewable energy schemes and for offshore wind in particular; a need which is beyond argument and grows more urgent with each passing month.

5.5.6 Given the need to tackle pressing climate change, a “do nothing” approach is inappropriate. It is not compatible with a climate emergency to wait and see if the development of other potential future offshore wind projects means the Proposed Development is not required. Any suggestion that other (yet to be identified) projects could make up for the loss of the Proposed Development fundamentally misunderstands the scale of the task in hand and the long lead-time for offshore wind development.

5.5.7 The do-nothing scenario would result in an estimated loss of circa 1,200 MW and would further decrease the chances of the UK meeting its target of 50 GW by 2030. The 2020s is the decade in which to set in motion the wheels of many projects which have potential to deliver decarbonisation in the 2030s and beyond. It is also the decade in which to deliver those low and no regrets projects which are critical to reducing carbon emissions as early as possible. This will avoid the additional burden caused by late delivery of such projects, on the development pipeline for the 2030s and beyond. Consenting the Proposed Development is consistent with that approach.

5.5.8 If the Proposed Development is abandoned, a relatively low cost and low risk project with the scope to provide an estimated capacity of 1,200 MW before 2030 would be lost.

Current Offshore Wind Applications

5.5.9 Current offshore wind applications are unlikely to meet the UK target for 50 GW by 2030. The do-nothing scenario therefore ignores a raft of government policy and targets set in legislation. Furthermore, it seriously inhibits the delivery of decarbonisation in the 2030s and beyond.

5.5.10 In the UK as a whole, there are currently 15 GW of installed offshore wind capacity. To meet its targets, the UK will have to use all the resources available to it and at an accelerated pace. Delivering the planned capacity under the Innovative & Targeted Oil & Gas (INTOG) of 5.5 GW by 2030 is critical if the 5-GW target is to pave the way for ScotWind (28 GW), Celtic Sea (4.5 GW) and UK leadership in floating wind.

5.5.11 Even with the Proposed Development, the above assessment shows that the UK is at high risk of not meeting the 50 GW target by 2030.

5.5.12 Some OWF projects could be subject to lengthened timescales from planning through to construction associated with the development process so run the risk of not becoming fully operational by 2030. Attrition may also be expected in line with previous rounds whereby 78% of awarded sites have become operational in Round 1 and 87% for Round 2, for England and Wales. Therefore, it is possible that there may be further reduction in capacity of some projects once in operation by 2030.

5.5.13 This demonstrates that not only would the Proposed Development be critical to help the UK meet its 2030 targets but may play a larger role in post-2030 targets, owing to potential attrition and lengthened timescales beyond 2030.

Future Offshore Wind Applications

5.5.14 Any resulting projects from future offshore wind applications are considered discounted at this time as any “potential” windfarm that is not yet in the formal planning system is not considered a feasible alternative solution as it is extremely unlikely any of these would be generating power in the 2020s. In recognition of this, future leasing rounds were discounted by the SoS in consideration of previous OWFs, e.g. Hornsea Three (BEIS, 2020a).

5.5.15 The urgent need to mitigate climate change and the consequent demand for deployment of offshore wind, at scale, by 2030, means that waiting to see how future proposals might progress is not an option.

5.5.16 TCE has calculated indicative timeframes for offshore wind based on its experience of previous offshore wind leasing rounds as shown in **Figure 5-1** below. Given the leasing (and follow-on consenting) timescales there is only a very small possibility for the estimated 1200 MW of the Proposed Development to be fulfilled by another UK project in future rounds. The scale of the UK targets for offshore wind, the short timescales now to meet 2030 targets and prevalence of offshore environmental and technical constraints, mean that lost capacity cannot be expected to be offset or replaced by other future leasing rounds even in the most optimistic of outlooks.

Summary

5.5.17 The do-nothing scenario would result in an estimated loss of circa 1,200 MW and would further decrease the chances of the UK meeting its target of 50 GW by 2030. The 2020s is the decade in which to set in motion the wheels of many projects which have potential to deliver decarbonisation in the 2030s and beyond. It is also the decade in which to deliver those low and no regrets projects which are critical to reducing carbon emissions as early as possible. This will avoid the additional burden caused by late delivery of such projects, on the development pipeline for the 2030s and beyond. Consenting the Proposed Development is consistent with that approach.

Figure 5-1 Indicative time frames for delivering new OWF Projects (TCE, 2018)

At Another Location

Alternative Array Locations Not in the UK EEZ

5.5.18 Alternative sites for OWFs outside the UK would not meet any of the core project objectives for the Proposed Development, primarily because they would provide no contribution to the identified UK need. The UK is party to international treaties and conventions in relation to climate change and renewable energy. However, according to the principle of subsidiarity and its legally binding commitments under those treaties and conventions, the UK has its own specific legal obligations and targets in relation to carbon emission reductions, renewable energy generation and energy security. Other international and EU countries similarly have their own (different) binding targets.

5.5.19 As such, sites outside the UK cannot count towards the need identified by UK policy. Conversely, sites outside the UK are required for other Member States and

countries to achieve their own respective targets in respect of climate change and renewable energy.

5.5.20 It is therefore self-evident that locations outside the UK cannot be an alternative solution to the Proposed Development. This concurs with the Hornsea Three decision (BEIS, 2020a), where the SoS confirmed that "it does not consider offshore wind farm projects that are located outside UK territorial waters as being an alternative to the Project [Hornsea Three] since this would not meet the objective to support the decarbonisation of the UK electricity supply and UK commitments on offshore wind generation".

Alternative UK EEZ Locations

5.5.21 Offshore wind development(s) located in alternative UK EEZ locations can be discounted on one or more of the following grounds:

- Such development would not meet core project Objectives No. 3, 4, 5 and 6 (see **Section 5.3**);
- such development is not feasible (for the Applicant);
- such development is complimentary (not an alternative) to the Proposed Development given the scale and urgency of the need;
- such development may have similar adverse effects on another MCZ(s); and;
- even if it is assumed that such development could have lesser effects on an MCZ(s) the strength and urgency of this case demands implementation of the Proposed Development in addition to, or in preference.

5.5.22 In his determination of Hornsea Three, the SoS considered Alternatives to the development and determined that for the reasons set out in the **Habitats Regulations Assessment (Without Prejudice) Derogation Case** (HRA) **[REP4-014]** (updated at Deadline 6), which are replicated above for the Proposed Development, that no alternative solutions are available with respect to alternative wind farm projects both within and out-with the UK EEZ.

5.5.23 TCE own and/or hold the exclusive rights to manage the leasing of seabed for offshore wind development within UK territorial waters and the UK EEZ, with seabed made available for offshore wind development selectively, in successive offshore leasing rounds, usually several years apart. Alternative UK EEZ locations cannot be alternative solutions for the reasons set out in the sections below.

Repowering Existing Windfarms

5.5.24 The majority of operational wind farms to date typically have a life span of 20 to 25 years before decommissioning is planned and these assets will not reach their decommissioning stage for another decade. The timeframes involved for the decisions on repowering therefore do not meet project Objective No. 4 in 'delivering a significant volume of (UK) offshore wind in the 2020s'. Furthermore, due to rapid technological advances in the size of turbines (increase rotor diameter from 120 m (3.6 MW) in 2013 to 260 m (12 MW) in 2021), it is highly unlikely that pairing foundations designed for smaller capacity turbines with larger turbines would be feasible due to fundamental engineering constraints. Newly designed

and built windfarms are likely to present the only means of repowering, requiring new consent.

Round 3

5.5.25 The identification of Round 3 Zones was the output of a robust Government and TCE spatial planning process involving SEA to identify / indicate relative levels of constraint and opportunity, and an AA by TCE of its plan to award the nine Zone Development Agreement (ZDAs).

5.5.26 Out of the nine zones identified during the TCE Round 3 process, only six zones were taken through to successfully deliver projects, including East Anglia ONE North, East Anglia TWO, Norfolk Vanguard, Norfolk Boreas and Hornsea Four. However, the consenting of Round 3 OWFs does not lessen the scale or urgency of the need for further large-scale offshore wind projects. To meet the 2030 Sector Deal, the majority, if not all of the OWF projects in Round 4 and ScotWind, as well as the capacity proposed to be delivered under the TCE Extensions Round, are also likely to be required. These are not, therefore, considered to be alternative solutions. Further information on the use of remaining parts of the Round 3 Zone 6 area for the Proposed Development are set out below.

Rounds 4 and 5

5.5.27 Round 4 projects are very unlikely to be generating power on any scale before 2030. These projects would not meet core project Objective No. 4 ('delivering a significant volume of (UK) offshore wind in the 2020s') and would therefore not address the Government's target to deliver 50 GW by 2030. Furthermore, regardless of timescales, they are still needed in addition to, not instead of the Proposed Development to meet the 50 GW target.

Alternative Area Within the Rampion Zone

5.5.28 Rampion 1 was developed following The Crown Estate's (TCE) Round 3 offshore wind leasing programme launched in 2008. The Round 3 area within which Rampion 1 was brought forward (Zone 6, in the English Channel) was one of nine Zones identified following a process of national, strategic level planning, and represented a critical component of the UK's response to meeting international and national renewable energy targets and commitments. As part of the wider national strategic initiative, a Strategic Environmental Assessment (SEA) of suitable areas for offshore wind development was conducted by the then Department of Energy & Climate Change (DECC), which completed in 2009. Development rights for the zones were not awarded until the completion of the SEA.

5.5.29 Rampion 1 was designed with a focus on achieving the most efficient and cost-effective project development at that time. The consent for Rampion 1 covered an area of 139km^2 within the total area of Zone 6 (271km^2), with the completed wind farm occupying approximately 72km^2. There is thus an extensive residual area within Zone 6 that was left undeveloped at that time. Substantial progress has been made in the offshore wind industry in the period since Rampion 1 design was optimised in 2014. This includes advances in project economics, technology and

understanding such as construction approaches, design, and social and environmental effects.

5.5.30 A re-evaluation of areas within the wider Zone 6, and the surplus part of the area consented under the Rampion 1 DCO, was therefore carried out to identify areas which may now be suitable for the development of the Proposed Development. Following detailed and thorough site selection appraisal, as set out in **Section 3** of the Applicant's **Chapter 3: Alternatives; Volume 2** of the ES **[APP-044]** (updated at Deadline 6), notably including extensive consultation and engagement throughout the process as well as assessment of engineering, environmental, economic and consenting factors and subsequent feasibility analysis, the Proposed Development project brought forward makes best use of the less constrained residual Zone 6 area as part of the Proposed Development.

5.5.31 As the remainder of Zone 6 is suboptimal for the development of an OWF, further utilisation by the Proposed Development of this area would not fulfil Objective No. 5 "To maximise renewable energy generation at optimal UK seabed locations".

In Another Manner

5.5.32 The consideration of environmental parameters and other constraints has been a central theme of the Proposed Development site selection. The site selection assessments have been supported by detailed consideration of the findings of the original Rampion 1 EIA and its subsequent Examination process, together with the knowledge and understanding gained through the post-consent and construction phases of Rampion 1. All of these have provided additional insight and understanding of the relevant environmental sensitivities and the range of other constraints applicable for the Proposed Development.

5.5.33 Consideration has been given to feasible alternatives throughout the development process for the Proposed Development. This has formed a fundamental driver for decision making within the project. The Applicant has continued to re-appraise all elements of the maximum development scenario (MDS) for the Proposed Development, to ensure that feasible and practical mitigation has been deployed, where deemed appropriate to do so (to eliminate or reduce likely significant effects (LSE), in EIA terms).

5.5.34 The Proposed Development has adopted commitments (primary design principles inherent as part of the Proposed Development, installation techniques and engineering designs/modifications) as part of their pre-application phase, to eliminate and/or reduce the hinderance of conservation objectives arising from any potential impacts (as far as possible). These are outlined in full in the **Commitments Register** **[REP5-086]** (updated at Deadline 6).

5.5.35 An important part of the Proposed Development design process has been the consideration of potential options, selection, and the subsequent refinement of project infrastructure. **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** (updated at Deadline 6) outlines the site selection process for the Proposed Development including a comparison of alternatives considered and the reasons for selecting the final MDS.

5.5.36 Consultation was a key part of this process, informing all stages, and has helped to refine the project through wider spatial, design and process considerations

discussed in broader forums, both formally through Evidence Plan meetings, or more informally through the feedback received through public consultation.

5.5.37 The Applicant has followed the following pre-application consultation process, as required under the Planning Act 2008, and set out in 'Planning Act 2008: guidance on the pre-application process for major infrastructure projects' (UK Government, 2015):

- notify the SoS of the proposed application;
- identify whether the project requires an environmental impact assessment; where it does, confirm that they will be submitting an environmental statement along with the application, or that they will be seeking a screening opinion ahead of submitting the application;
- produce a Statement of Community Consultation, in consultation with the relevant local authority or authorities, which describes how the applicant proposes to consult the local community about their project and then carry out consultation in accordance with that Statement;
- make the Statement of Community Consultation available for inspection by the public in a way that is reasonably convenient for people living in the vicinity of the land where the development is proposed, as required by section 47 of the Planning Act and Regulations;
- identify and consult statutory consultees as required by section 42 of the Planning Act and Regulations;
- publicise the proposed application in accordance with Regulations;
- set a deadline for consultation responses of not less than 28 days from the day after receipt/last publication;
- have regard to relevant responses to publicity and consultation; and
- prepare a consultation report and submit it to the SoS.

5.5.38 Prior to consultation with stakeholders, consideration was given to several technical, commercial, and environmental consenting constraints, informed by data analysis and constraints mapping.

5.5.39 Following these consultation exercises the Proposed Development has been refined further both onshore and offshore and proposed mitigation measures have been applied to avoid hindering the conservation objectives of the Kingmere MCZ (see **Section 3.2**).

5.5.40 The design process for the Proposed Development has been challenging considering geological (deeper waters) and shipping constraints, particularly to the south of the site. This is further exacerbated by landscape and visual considerations presented through proximity of the Proposed Development to the South Downs National Park and two other Landscape Character Areas.

5.5.41 The impact caused to Kingmere MCZ from pursuing this development is due to noise generated from installing foundations for both the proposed wind turbines and the offshore substations. Four principle means of reducing noise from these

activities when compared to the most widely used method for completing this task in the UK, unabated driven piles, are set out below:

- Utilisation of one or more noise abatement systems whilst installing a driven pile based foundation (either a monopile or a multileg foundation);
- Drilling and grouting in place a pile based foundation;
- Employing suction caissons to put in place a multileg foundation. or
- Deploying gravity base foundations;

5.5.42 The Applicant has proposed the use of the driven pile based foundations installed using at least one noise abatement system to reduce the noise incident on the MCZ during construction works as the principal means delivering the project. Three of the other means have also been included within the application made, but these cannot be relied upon for all potential foundation installation works across the site:

- Drilling and grouting in place piles. This requires specific ground conditions, principally hard areas of seabed. This cannot be relied upon as another manner for installing piled foundations as the ground conditions suitable for this method will be limited in area across the site.
- Employing suction caissons. This requires specific ground conditions and is also more difficult in waters of less than 20m, as located in the north of the site. This cannot be relied upon as another manner for installing piled foundations as the ground conditions suitable for this method will be limited in area across the site.

5.5.43 Using these means in combination is also not another manner than can be relied upon as this would require multiple engineering solutions to be developed and therefore significantly increase the cost and installation duration of the project.

5.5.44 The use of gravity base foundations has not been included in the application and therefore is not another manner that could be considered.

5.5.45 Gravity Base foundations are ballasted concrete foundations that sit on the seabed. The stability of these foundations is provided by the overall size and dead weight of the foundation, which is required to resist all the anticipated WTG loads and metocean forces. As a consequence, the foundations tend to be very large and expensive to manufacture onshore, transport to the offshore site and install on a pre-prepared seabed. Gravity foundations also occupy a large footprint on the seabed, so the environmental impact on the seabed and obstruction in the water column is much greater than other types of foundation. Gravity foundations were considered for Rampion 1 at the EIA stage but were subsequently ruled out due the ground conditions being very variable and unsuitable for this type of foundation. Similar variable ground conditions are known to exist on Rampion 2. Due to the ground conditions and the environmental issues they have not been considered further for Rampion 2.

5.5.46 Prohibiting piling throughout March – July would have a direct effect on the construction schedule of the project by prohibiting construction in the months of the year with the most accommodating weather conditions. Until the final design of the turbines and foundations, and until comprehensive geotechnical surveys are

completed, it is difficult to determine with a high level of confidence, what the magnitude of the impacts from piling restrictions on the construction schedule would be. However, preliminary construction modelling has strongly indicated that a full piling ban would be extremely challenging, leading to an additional year or more of offshore installation activity being required.

5.5.47 In recent months a key Rampion 2 shareholder has followed other developers around the world in taking decisions not to bid in auction rounds, or to cancel projects. The economic viability of offshore windfarms is key and an extensive piling ban with the associated increase in the cost of the construction schedule, in addition to other mitigation measures such as double bubble curtains, considerably limits the project's prospects of securing funding and getting built. Work has commenced to model the construction programme under the constraints of a full piling ban. This work may conclude that the costs associated with repeated installation spread mobilisations to avoid the black seabream breeding season, in combination with the equipment required to meet the proposed stringent noise restriction, prevent the Applicant submitting a competitive bid at the next Auction Round.

5.5.48 The Applicant has determined that the financial and logistical implications of a full piling ban would result, as a minimum, in a reduction of the total capacity of generation that could be installed or could make the project unviable. This would be in conflict with the urgent need for renewable energy set out in NPS EN-1 (2011), the Critical National Priority status for offshore wind set out in NPS EN-3 (2023), and the 50 GW by 2030 target for offshore wind set out in the British Energy Security Strategy (2022). Considering that a single rotation of the proposed turbines could power a household for over 2 days, the reduction of any turbines installed would have a significant effect on generating capacity over the 30 year lifetime of the Proposed Development. As a result of this direct conflict with the urgent need set out in the 2011 and 2023 NPS, the Applicant considers that a full piling ban is not an appropriate means of proceeding and is not considered proportionate to the assessed potential for effects on the Conservation Objectives of the Kingmere MCZ.

5.5.49 Therefore, project design changes and changes to construction schedules are not considered as feasible OMP for the Proposed Development.

5.6 Step 4 – Assessment and comparison of the impact of any feasible alternative solutions on the MPA network

5.6.1 Step 4 would involve an assessment and comparative analysis of the relevant impacts of any identified feasible alternatives in respect of the MPA Network. However, as the previous Steps (1 – 3) demonstrate, there are no feasible alternatives to the Proposed Development at other or to the final design and area for the Proposed Development, this Step is therefore not required.

Summary of OMP

5.6.1 The purpose of this section has been to demonstrate objectively to the SoS that there are no feasible Alternative Solutions to the Proposed Development.

5.6.2 The iterative and comprehensive design and mitigation process including a range of potential alternatives discounted by the Applicant during pre-application prior to determining the final design and maximum area for development for the Proposed Development can be found within **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** (updated at Deadline 6).

5.6.3 The consideration of 'In Another Manner' or OMP must be approached on a reasonable basis, with reference to the genuine project objectives designed to serve the identified need. Each stage/ step must be grounded in real world considerations of feasibility (legally, technically, and commercially). With that in mind, the Applicant has undertaken a comprehensive analysis of potential alternative options which is considered sufficient to enable the SoS to be objectively satisfied as to the absence of any feasible Alternative Solutions to the Proposed Development.

5.6.4 It is relevant and reasonable for the SoS to have regard to and place weight on the experience and expertise of the Applicant in offshore wind development. RWE has pioneered UK offshore wind energy over two decades, having installed the first offshore turbines at Blyth in 2000, and commissioned the UK's first commercial-scale offshore wind farm, North Hoyle, in 2004. RWE owns and/or operates 10 offshore wind farms with a total installed capacity of 3.86 GW. With six projects already in development and plans to establish commercial scale floating wind in the UK, RWE has one of the largest offshore wind pipelines in the UK.

5.6.5 The final design and maximum area for development for the Proposed Development is informed by expert judgement and market leading expertise, with current knowledge of the realities and challenges of construction in the marine environment. The Applicant believes that the experience RWE holds in offshore wind delivery should give the SoS confidence that the Applicant has considered all feasible options to avoid or reduce harm to MPAs whilst ensuring a viable and deliverable project.

6. Clear Public Benefits

6.1 Introduction

6.1.1 This section is provided to demonstrate that the SoS can be satisfied that there are Clear Public Benefits for the Proposed Development, should the SoS conclude that the conservation objectives of the Kingmere MCZ will be hindered by the Proposed Development.

6.1.2 This section of the document sets out a compelling case that the Proposed Development must be carried out for its Clear Public Benefit in view of its social and economic benefits, which align with (and are needed to achieve) UK government policy aspirations and legal commitments.

6.1.3 The case submitted demonstrates that the Proposed Development can substantially contribute to the UK's legally binding climate change targets by helping to decarbonise the UK's energy supply, whilst also contributing to the essential tasks of ensuring security of supply and providing low-cost energy for consumers in line with the UK government's national policies. The Proposed Development will also provide substantial employment opportunities and skills development, particularly in coastal communities, whilst also playing a major role in supporting the UK's supply chain.

6.2 Clear Public Benefits

6.2.1 Similarly to OMP, Clear Public Benefits has been considered in a broadly similar way as the approach to consideration of "*IROPI*" under Article 6(4) of the Habitats Regulations (known as 'derogation'), to ensures a comprehensive and robust analysis.

The Global Imperative – (*"Actions to protect fundamental values for citizens' life: health, safety, environment")*

6.2.2 The impacts of climate change are global in scope and unprecedented in human existence. The science linking the concentration of greenhouse gas emissions to average global temperature on earth is unequivocal. The climate stability that has enabled humans to prosper is now at risk. This has been highlighted by the Sixth Assessment Report published recently by the Intergovernmental Panel on Climate Change (IPCC, 2023). This report highlighted amongst other things that it is unequivocal that human influence has warmed the atmosphere, ocean and land and that widespread changes in the atmosphere, ocean, cryosphere, and biosphere have occurred.

6.2.3 The direct and indirect consequences of climate change, which include extreme weather events (flooding, heat waves and droughts), species extinctions and ecosystems collapse all threaten the health, safety, and environment of global citizens. For example, by hindering food production, water resources and putting lives and settlements at risk.

6.2.4 The UK government recognises that people are already experiencing some impacts and that those impacts will become more severe and widespread as global temperatures rise. The measure of the impacts citizens experience depends upon how successfully greenhouse gas emissions can be reduced. The IPCC has stressed that global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO_2 and other greenhouse gas emissions occur in the coming decades.

6.2.5 With the potential to generate an estimated capacity of 1200MW, the Proposed Development will deliver a substantial, near-term contribution to UK decarbonisation objectives and security of supply and will significantly help to reduce the UK's greenhouse gas emissions, by offsetting millions of tonnes of carbon dioxide (CO_2) emissions per annum.

6.2.6 In the Hornsea Three Decision (BEIS 2020a), the SoS determined that the consequences of not contributing to the objective of limiting the extent of climate change would be "severely deleterious to societies across the globe, including the UK, to human health, to social and economic interests and to the environment"

6.2.7 There is a principle and essential need for the NPSs in providing a framework for delivering the UK's international commitments on climate change in accordance with the objectives of the Paris Agreement. The consequences of not achieving those objectives would be severely deleterious to societies across the globe, including the UK, to human health, to social and economic interests and to the environment.

The UK Context (*"Fundamental policies for the State and the Society"*)

6.2.8 The UK has demonstrated global leadership on climate change. It has in place a comprehensive set of measures to reduce greenhouse gas emissions through investment in renewables. Recent enhancements of UK government policy and legislation to tackle climate change provide unequivocal evidence that the objectives of the Proposed Development fall within a framework of fundamental policies for the state (and the society it serves).

6.2.9 In July 2019, the UK became the first major economy to legally commit to reducing its greenhouse gas emissions to net zero by 2050. In their 2019 Report (CCC, 2019), the UK's CCC advise that consistently strong deployment of low-carbon generation in the lead up to 2050 will be required to meet net zero, including "…at least 75GW of offshore wind." In the most recent CCC report (CCC, 2022), the CCC emphasise that in order to achieve Net Zero there is a required "a rapid scale up in low carbon investment….and speed up the delivery which will need to accelerate even where ambition is broadly on track. For example, although the Government's 2030 target for offshore wind is in line with the CCC pathway, a minimum of 4GW of additional offshore wind capacity will be needed each year from the mid-2020s onwards, significantly greater than the current 2GW per year".

6.2.10 The adoption of a net zero by 2050 commitment requires a substantial reduction in the carbon emissions from transport and heat. This in turn is expected to create a substantial additional demand for low-carbon electricity in the 2030s and 2040s. This additional demand places a new urgency on the development of new and

additional sources of low-carbon electricity that must be established in the 2020s to meet the UK government's carbon budgets out to 2050.

6.2.11 Again, this closely aligns with the Energy NPS HRA (BEIS, 2021) which states that the key objectives of the Energy NPS suite are for the energy system to ensure supply of energy always remains secure, reliable, affordable, and consistent with meeting our target to cut greenhouse gas emissions to net zero by 2050.

6.2.12 Through the BEIS the UK government has pledged to install 50GW of offshore wind capacity by 2030, up from the previous target of 40GW (BEIS, 2022). This pledge represents five times increase of the UK's installed offshore wind capacity within the next decade and reflects Government's aim to accelerate its journey in order to deliver net zero greenhouse gas emissions. As illustrated in **Figure 5-1** the development of large-scale offshore wind farms typically takes more than eight years. Projects that are not consented, in planning or well-advanced are unlikely to contribute by 2030.

6.2.13 Without the contribution from the Proposed Development, it is very possible that delivery of the Sector Deal and the UK government's 2030 ambition would fall short. Offshore wind is recognised as being an important technology for low-carbon generation and the urgent need for large capacities of low-carbon generation is clear to avoid compromising security of electricity supply. Specifically, the Proposed Development will be a necessary part of the future generation mix, and as such will make a valuable contribution in the direction of adopted UK government policy and achievement of decarbonisation commitments.

6.2.14 At the local level, the UK's net zero target is reflected in the climate change strategies of Arun (Arun District Council, 2022), Horsham (Horsham District Council, 2022), Mid Sussex (Mid Sussex District Council, 2022), South Downs National Park Authority (SDNPA, 2020), and West Sussex County Council (West Sussex County Council, 2020).

6.2.15 In the Hornsea Three Decision (BEIS 2020a), the SoS references the UK's international commitments on climate change to define the principal and essential benefit of the project. These are delivered through the Climate Change Act 2008 (as amended), the National Policy Statements (NPS) for energy (EN-1), renewable energy infrastructure (EN-3) and electricity networks (EN-5).

6.2.16 Furthermore, these NPSs place greater emphasis on OWFs, as these are considered critical national infrastructure.

The Clear and Urgent Need for Rampion 2

6.2.17 The fundamental importance of and need to urgently deliver the Proposed Development is therefore clear and demonstrable. It flows from the important and urgent requirement to deliver significant volumes of renewable energy generating capacity to meet the UK's legally binding net zero by 2050 commitment in response to the latest climate science and, in turn, from the size of the contribution expected from offshore wind, as confirmed by the government's commitment of 50GW of offshore wind by 2030.

6.2.18 The need for significant quantities of offshore wind is well-established in the 2024 National Policy Statements (NPS) (EN-1 and EN-3).

6.2.19 The energy industry has also continued to evolve with the cost of many key technologies falling significantly, which the CCC note is an indication of "…major changes to what is possible…". There is now an even greater urgency for offshore wind generation, particularly large projects like the Proposed Development which are deliverable in the late-2020s, given announcements made in 2019 relating to nuclear deployment in the UK. Offshore wind is now one of the lowest cost forms of energy and one that can be deployed at scale within relatively short timeframes. It is essential to meet the government's decarbonisation, security of supply and affordability policies.

6.2.20 The Energy NPS HRA (BEIS, 2021) states that "wind and solar are not reliant on fuel for generation. They are the lowest cost ways of generating electricity, helping to reduce costs and providing a clean and secure source of electricity supply."

6.2.21 As explained in **Section 5.4** ('the Need'), the deployment of offshore wind, and specifically Rampion 2, is needed to make a significant contribution to the following UK Government's national policy aims of decarbonisation:

- net-zero and the importance of deploying zero-carbon generation assets at scale;
- security of supply (geographically and technologically diverse supplies); and
- affordability.

6.2.22 Wind generation is economically and technically preferential, to the GB electricity consumer for the following reasons:

- Decarbonisation is a UK legal requirement and is of global significance. It cannot be allowed to fail, and urgent actions are required in the UK and abroad, to keep decarbonisation on track to limit global warming.
- Wind generation is an essential element of the delivery plan for the urgent decarbonisation of the GB electricity sector. This is important not only to reduce power-related emissions, but also to provide a timely next-step contribution to a future generation portfolio which is capable of supporting the decarbonisation of transport and heat sectors, through electrification.
- As part of a diverse generation mix, wind generation contributes to improve the stability of capacity utilisations among renewable generators. By being connected at the transmission system level, large-scale offshore wind generation can and will play an important role in the resilience of the GB electricity system from an adequacy and system operation perspective.
- Internationally, and importantly, GB is leading in this regard, offshore wind generation assets are becoming bigger and cheaper, each subsequent project providing a real-life demonstration that size and scale works for new offshore wind and providing benefits to consumers in the process. Other conventional low-carbon generation (e.g., tidal, nuclear or conventional carbon with CCUS) remain important contributors to achieving the 2050 Net-Zero obligation, but their contributions in the important 2020s is likely to be low.
- Offshore wind is already highly competitive against other forms of conventional and low-carbon generation, both in GB and more widely.

6.2.23 The Proposed Development specifically offers the following benefits:

- The Proposed Development proposes a substantial infrastructure asset, capable of delivering large amounts of low-carbon electricity, from as early as the late 2020s. This is in line with the CCC's recent identification of the need for urgent action to increase the pace of decarbonisation in the GB electricity sector.
- The Proposed Development's connection to the National Energy Transmission System (NETS) means that it will be required to play its part in helping NGESO manage the national electricity system. This includes participating in mandatory balancing markets (to help balance supply and demand on a minute-by-minute basis and provide essential ancillary services) as well as providing visibility to the GB power market of its expected generation. This means that the low marginal cost wind power will produce, can be forecast and priced into future contracts for power delivery by all participants, thus allowing all consumers to benefit from the market-price reducing effect of low-marginal cost from offshore wind generation.
- maximising the capacity of generation in the resource-rich, accessible, and technically deliverable Rampion Zone, is to the benefit of all GB consumers, and the wind industry generally.
- The Proposed Development can make a large, meaningful, and timely contribution to decarbonisation and security of supply, while helping lower bills for consumers throughout its operational life, thereby addressing all important aspects of the UK's legal obligations and existing and emerging UK government policy. The case for the Proposed Development is urgent and important.

A Clear Public Benefit

6.2.24 There is a clear public interest in the Proposed Development proceeding. That flows from its unique ability to provide a substantial contribution in the late 2020s towards the achievement of the UK government's national policies, which demand the urgent decarbonisation, ensuring security of supply and affordability discussed above.

6.2.25 Defra (2021) advises that the NPSs and other documents setting out UK government policy (e.g., the UK Renewable Energy Roadmap, DECC, 2013) provide a context for competent authorities in considering derogation and that projects which enact or are consistent with national strategic plans or policies (e.g., such as those provided for in NPS EN-1 and EN-3) are more likely to show a high level of public interest.

6.2.26 The Proposed Development is consistent with and enacts important national policy as demonstrated in the sections above.

6.2.27 It is further noted that in the determination of Hornsea Project Three (BEIS 2020a), the SoS found that the project will provide an essential public benefit (paragraph 6.36) in terms of the delivery of renewable energy.

Combating Climate Change

6.2.28 The public interest in the Proposed Development goes further than meeting legal and policy targets. The Proposed Development could be instrumental in combating climate change and the threats it poses to human beings and the environment (including fish). The health and well-being of our species, and the future of our planet, depends on the rapid deployment of renewable resource such as the Proposed Development.

6.2.29 The most recent climate change risk assessment for the UK published by the UKs CCC highlights a series of risks to the UK from climate change (CCC, 2021). 61 risks and opportunities were identified in the report and many of these risks could be combatted by the deployment of large-scale offshore wind resource such as, and including, the Proposed Development.

6.2.30 Habitats vulnerable to climate change that are not adversely impacted by the Proposed Development will benefit from climate change mitigation which low carbon generation provides. This demonstrates that climate change mitigation including low carbon generation is an essential part of protecting the coherence of the UK MPA network.

Socio-Economic Benefits

6.2.31 The public interest in the Proposed Development goes further still and includes substantial economic benefit to the UK and its regions. The Proposed Development is capable of providing substantial benefits to the UK economy including facilitating confidence in the UK and local supply chain, growing a skilled workforce and providing wider community benefits.

6.2.32 As set out in **Appendix 17.2: Socio-economics cost and sourcing report, Volume 4** of the ES **[APP-164]** the assessment of the key quantitative measures of economic impact (i.e. employment and Gross Value Added (GVA) output) during the construction phase are driven by the amount of the relevant projects supply chain expenditure captured by businesses located within each Study Area identified.

6.2.33 For the Proposed Development, it is estimated that around 40% of its £2.87 billion (in 2019-pricing) construction cost, or the equivalent of £1.14 billion (in 2019-pricing) will be retained by businesses in the Proposed Development's supply chain nationally. At the Sussex-level, the overall level of supply chain expenditure retained by local businesses is anticipated to be minimal (around 1.0% of total construction costs), adding up to £30.1 million (in 2019-pricing).

Employment

6.2.34 At the UK level, the potential employment supported by the Proposed Development (i.e. when taking account of the direct, Tier-1 and wider supply chain impact) is estimated to average around 4,060 FTE jobs per annum. At the Sussex level, the expenditure retained locally is estimated to support around 80 direct FTE jobs over the construction phase of the Proposed Development.

6.2.35 Based on research about offshore wind supply chain engagement (RenewableUK, n.d.), it is estimated that currently there are in the order of 20 businesses directly

engaged in offshore wind supply chain activity within Sussex, a number of which are local offices of much larger (often national/international) businesses within the sector. On this basis, it is anticipated that jobs supported during the development and construction phase of the Proposed Development, will include jobs employed in development and consent activities, including engineering and professional services.

6.2.36 At this stage it is not possible to quantify the exact number of direct jobs that will be supported by the Proposed Development's day-to-day operations. However, it is estimated that an offshore windfarm the size of the Proposed Development will require between 40 to 50 FTE posts (allowing for some degree of efficiency across operations for the existing Rampion 1 project and Rampion 2). Additional employment will also be supported through supply chain expenditure with businesses located in Sussex and elsewhere in the UK.

6.2.37 In terms of wider potential employment benefits supported during the operation and maintenance phase of the Proposed Development, it is anticipated that between 540-550 (FTE) direct, indirect and supply chain jobs will be supported nationally, of which between 100-110 jobs will be based in Sussex.

Impact of Construction on Gross Value Added (GVA)

6.2.38 The employment supported by the construction of the Proposed Development will also contribute to the size and overall productivity of the national and local economies, ultimately supporting their recovery from the current downturn experienced as a result of the COVID-19 pandemic.

6.2.39 It is estimated that construction activity will contribute in the region of £233 million GVA per annum, totalling to £936 million over the Proposed Development's anticipated four-year construction programme. Of this, an estimated £16 million GVA (or around £4.1 million per annum) are anticipated to be generated by Sussex-based businesses engaged with the Proposed Development's supply chain.

Supply Chain and Skills Development

6.2.40 Despite local supply chain constraints, the Applicant aims to work with local partners to maximise the ability of local people and businesses to access opportunities associated with the construction and operation of the project. An **Outline Skills and Employment Strategy [PEPD-037]** has been submitted with this application.

Public Interest

6.2.41 While the Applicant is a private entity, the strategy to harness the UK's offshore wind resource to produce renewable electricity can only be delivered through the private sector. The identification and development of offshore sites for that purpose is a fundamental national policy pursued within a clear framework, which seeks to protect the environment and human health from the consequences of climate change and promote public safety.

6.2.42 Critically, it is a state-led policy. From the earliest rounds of offshore wind, it has been promoted and pursued by the Government, delivered through TCE. Site appraisal was initiated by the Government SEA, with subsequent site appraisal and delivery refined by TCE through SEA and Zone Appraisal and Planning studies.

6.2.43 Therefore, the policy drivers for offshore wind clearly lie in and serve the public interest. However, delivery of that public interest must be through private companies such as RWE.

6.2.44 Managing Natura 2000 Sites acknowledges that it is the nature of the interest, not the party promoting that interest, that must be public: "As regards the "other imperative reasons of overriding public interest" of social or economic nature, it is clear from the wording that only public interests, irrespective of whether they are promoted either by public or private bodies, can be balanced against the conservation aims of the Regulations."

6.2.45 It is beyond doubt that projects developed by private bodies can be considered where such public interests are served, as in this case.

A Long Term Interest

6.2.46 Each public interest identified above is a long-term UK interest – decarbonisation, security of supply, provision of low-cost energy, protecting the human species and the environment, providing employment opportunities, contribution to the UK economy, provision of skills training and community benefit.

6.2.47 The Proposed Development will be capable of providing clean energy generation for around 30 years (possibly longer) and it can be deployed within a relatively short time frame (within the 2020s). It will contribute to the UK's future low carbon energy mix needed to meet UK's net zero commitment but also beyond 2050.

6.2.48 As demonstrated in earlier sections of this report, delivery of offshore wind resource is urgently required to bridge the gap between the move away from carbon generation technologies to the large-scale deployment of other technologies such as nuclear, wave and tidal.

6.2.49 All scenarios forecast to achieve net zero involve the large-scale deployment of renewable generation, with the CCC stating that at least 75GW of offshore wind is required. Electricity demand is predicted to rise and there is a long-term interest in ensuring that the lights remain on, whilst also meeting decarbonisation targets and combatting climate change.

6.2.50 Large energy infrastructure projects have a long lead time due to the planning and consenting framework. The potential contribution of the Proposed Development is significant to decarbonisation and security of supply, but also strategically important, to ensuring continuity in the offshore wind sector. Through the Offshore Wind Sector Deal, industry has committed to strengthening the competitiveness of the UK supply chain, consistent with the UK’s Clean Growth Strategy. This is a long-term endeavour which seeks to maximise the advantages for UK industry from the global shift to clean growth.

6.2.51 Economic benefits will derive not only from the direct construction, operation, and maintenance of Rampion 2 but from the important confidence it will bring to the UK supply chain.

6.3 Weighing of Public Benefit Against the Impact

6.3.1 This section weighs the public benefit against the damage caused to the relevant feature of the Kingmere MCZ.

6.3.2 It will be for the SoS therefore to make a judgement on whether the substantial, long-term public interest that the Proposed Development delivers, outweighs the potential harm to the Kingmere MCZ.

6.3.3 Guidance from Defra (2021) states that when determining whether the identified public benefits outweigh the damage, consideration may or should be given to the following factors:

The potential impact on the conservation objectives for the MCZ(s) affected and any impact on the objectives, coherence and vision for the MPA network at the regional and national level

6.3.4 The Applicant does not believe that the conservation objectives will be hindered by the Proposed Development, based on the rigours mitigation that is detailed within the **In Principle Sensitive Features Mitigation Plan [REP5-082]** (updated at Deadline 6). However, this Stage 2 MCZA has been developed on a 'without prejudice' basis, based on consultation feedback as detailed within **Section 1.4.**

6.3.5 Consideration of weighing of public benefit against the impact necessarily involves a balancing exercise and an exercise of planning judgement by the decision maker, which in the case of the Application is the SoS.

The potential impact of the activity on the delivery of sustainable development of the marine environment

6.3.6 In order to address the climate emergency, renewable energy needs to be secured. When the very localised and small-scale impact of the Proposed Development is compared to the substantial scale and positive contribution that the development provides in addressing climate change, it is clear that the Proposed Development should be regarded as sustainable development of the marine environment.

The potential impact on the achievement of government environmental targets

6.3.7 The Proposed Development positively contributes to many of the government environmental targets as detailed in **Sections 5** and **6**.

The potential impact of any activity on the delivery of measures aimed at achieving Good Environmental Status (GES) as set out in the Water Framework Directive (WFD)

6.3.8 The Proposed Development would have no impact on delivery of measures to achieve GES as set out in the WFD (**Appendix 26.3 Water Framework Directive compliance assessment, Volume 4** of the ES **[APP-217]**).

The impact on the delivery of the measures aimed at achieving GES as set out in the Marine Strategy Framework Directive (MSFD)

6.3.9 The Proposed Development would have no significant impact on delivery of measures to achieve GES as set out in the MSFD.

The Cumulative, combined and synergistic impacts of the proposed activity, taken with other activities in the relevant area

6.3.10 The cumulative, combined and synergistic impacts of the Proposed Development have been considered within the relevant MCZA's (**Draft Marine Conservation Zone assessment [APP-040]**).

The overall impact on ecosystem services that the feature in question provides

6.3.11 The value and function of black seabream is detailed in **Section 3.3**. The overall impact to the ecosystem value of this feature can be deemed minimal compared to the overall public benefit that the Proposed Development plays in tackling the climate emergency by securing up to 1200 MW of renewable energy.

6.3.12 It is of fundamental importance to this case to re-emphasise the minimal contribution of the Proposed Development to the potential disturbance of spawning/nesting of black seabream.

6.3.13 The Proposed Development is a project of strategic importance for the UK, for the future protection of local communities, property, and infrastructure and to ensure a reliable supply of electricity for the UK in the long-term. Concurrently, the transition to renewable energy is more beneficial ecologically than a continuous reliance on finite fossil fuels.

6.3.14 The long-term public interest that the Proposed Development delivers must outweigh the potential harm to the Kingmere MCZ, and The Applicant considers that there are no alternatives to the Proposed Development. As the Proposed Development is a fundamental component of the UK's need and obligations to address climate change, the potential harm is clearly outweighed by the substantial public interest. Ultimately the decision over a long-term renewable energy strategy versus minimal predicted adverse impacts on MCZs rests with the SoS.

Summary

6.3.15 This submission demonstrates a compelling case that the Proposed Development is indispensable and must be carried out for Clear Public Benefits.

6.3.16 The Proposed Development can substantially contribute to the UK's legally binding climate change targets by helping to decarbonise energy supply, whilst also contributing to the essential tasks of ensuring security of supply and providing low-cost energy for consumers in line with the UK Government's national policies.

6.3.17 The Proposed Development will contribute to tackling the climate change risks identified in the UK CCC's "UK Third Climate Change Risk Assessment (CCRA3)", all of which impact the core Clear Public Benefits of human health, public safety, and the primary importance of the environment.

6.3.18 The Proposed Development will also contribute materially to the economic and social landscape in the UK as it can provide substantial employment opportunities and skills development, particularly in coastal communities, whilst also playing a major role in supporting the UK's supply chains.

6.3.19 If the SoS finds that there is a hinderance to the conservation objectives of the Kingmere MCZ, then there is a demonstrable Clear Public Benefit in the Proposed Development and the policy objectives it will serve, which significantly outweighs the minimal contribution of the Proposed Development to the potential adverse impact on the MCZ.

7. Measures of Equivalent Environmental Benefit (MEEB)

7.1 Introduction

7.1.1 The SoS will decide on whether the current mitigation for the relevant sensitive feature is sufficient to avoid hindering the conservation objectives of the relevant MCZs (see **Section 3.2**). This without prejudice derogation case has been prepared in the event that the current mitigation is considered to be insufficient.

7.1.2 If the proposed mitigation measures are insufficient to avoid hindering the conservation objectives of the relevant MCZs, the SoS must be satisfied that there are no OMP and that the benefits of the Proposed Development clearly outweigh the potential impact to the features of the relevant MCZ's. In this case, the SoS must make it a condition of the DCO that MEEB are or will be undertaken. The **Without Prejudice Measures of Equivalent Environment Benefit (MEEB) Review for Kingmere Marine Conservation Zone (MCZ) [REP4-078]** (updated at Deadline 6) details the consideration of options for MEEB (if required).

Kingmere MCZ Engagement Group (KMEG)

7.1.1 If the SoS cannot rule out that the Proposed Development would represent a significant risk of hindering the conservation objectives of the Kingmere MCZ, then as part of the 'Without Prejudice' MEEB Implementation and Monitoring Plan, a Kingmere MCZ Engagement Group (KMEG) will be created/or joined post-consent to inform the delivery of the MEEB, including ongoing monitoring and adaptive management (as set out in the DCO). This would be secured through a schedule that will be included in the **Draft Development Consent Order [REP5-005]** (updated at Deadline 6), if MEEB is required. A draft Schedule 18 (**Schedule 18 - Measures of Equivalent Environmental Benefit (on a without prejudice basis) [REP4-081]** has been submitted at Deadline 4 on a without prejudice basis.

7.1.2 The KMEG will be the steering group who will shape and inform the scope and delivery of the 'Without Prejudice' MEEB Implementation and Monitoring Plan. The KMEG would be consulted on to steer the proposed 'Without Prejudice' MEEB Implementation and Monitoring Plan prior to submission to the SoS and during the approval process as necessary.

7.1.3 Membership and meeting schedule of the KMEG is yet to be defined but membership is likely to comprise of the Applicant, key Delivery Partner(s) and key stakeholders. Once in place, members of the KMEG will finalise schedules for monitoring and implementation.

7.1.4 Monitoring will be required for all stages of the proposed MEEB. The details of monitoring proposals will be discussed with the KMEG, with key details to be agreed upon including the frequency, duration, and nature of monitoring, methodology, as well as data analysis and reporting requirements.

7.2 'Without Prejudice' MEEB for Black Seabream

7.2.1 The Applicant has prepared a **Without Prejudice Measures of Equivalent Environment Benefit (MEEB) Review for Kingmere Marine Conservation Zone (MCZ) [REP4-078]** (updated at Deadline 6) which sets out the preferred measures of equivalent environmental benefit specifically relating to effects on black seabream *(Spondyliosoma cantharus)* within the Kingmere MCZ, and how they would be secured and delivered under a scenario whereby the SoS determines that MEEB are required for this feature of the MCZ.

7.2.2 In this scenario, a new schedule (**Schedule 18 - Measures of Equivalent Environmental Benefit (on a without prejudice basis) [REP4-081]**) to the **Draft Development Consent Order [REP5-005]** (updated at Deadline 6) has been proposed that the SoS could include in the final DCO for the delivery of the 'Without Prejudice' MEEB Implementation and Monitoring Plan. This approach is supported by the 'Without Prejudice' In Principle MEEB Implementation and Monitoring Plan, with the final MEEB Implementation and Monitoring Plan required to be consistent with the principles identified.

7.2.3 Further details on the precise delivery methodology for the MEEB would be provided pre-commencement, through the commitment to produce a 'Without Prejudice' MEEB Implementation and Monitoring Plan to be submitted to and approved by the Secretary of State, in consultation with the Marine Management Organisation (MMO) and Natural England.

7.2.4 The Applicant has considered various options of MEEB for black seabream to compensate for the impacts of noise from piling activity. The options have been undergone a Red, Amber, Green (RAG) Analysis based on the (i) deliverability (ii) spatial scale required and (iii) timescale and then given an overall feasibility rating. A Table demonstrating this analysis can be found in the **Without Prejudice Measures of Equivalent Environment Benefit (MEEB) Review for Kingmere Marine Conservation Zone (MCZ) [REP4-078]** (updated at Deadline 6) .

7.2.5 The options for MEEB that have an overall feasibility score of 'Green' are proposed as MEEB (if required) by the Applicant. The details of the MEEBs can be found within the **Without Prejudice Measures of Equivalent Environment Benefit (MEEB) Review for Kingmere Marine Conservation Zone (MCZ) [REP4-078]** (updated at Deadline 6).

7.2.6 Amongst other matters, the **Without Prejudice Measures of Equivalent Environment Benefit (MEEB) Review for Kingmere Marine Conservation Zone (MCZ) [REP4-078]** (updated at Deadline 6) sets out detail in relation to:

- value and function of the measure;
- the objective and scale of the measures;
- the delivery process;
- the delivery timescales; and
- the proposed monitoring and reporting of the measure(s).

8. Conclusions

8.1.1 The Applicant has developed this document to support its position that the conservation objectives of the black seabream feature of the Kingmere MCZ will not be hindered by the Proposed Development.

8.1.2 This document serves as part of a “Stage 2” MCZA. Section 126(7) provides a derogation process, which is engaged if the conditions of section 126(6) of the MCAA are not met. The derogation requires that three pre-conditions are satisfied:

(a) there is no other means of proceeding;

(b) the benefit to the public of proceeding clearly outweigh the risk of damage to the MCZ; and

(c) measures of equivalent environmental benefit ("MEEB") can or will be taken.

8.1.3 This document serves as part of a Stage 2 Marine Conservation Zone Assessment (MCZA) as part of this process and addresses parts (a) and (b).

9. Glossary of Terms and Abbreviations

Term (acronym)	Definition
Baseline	Refers to existing conditions as represented by latest available survey and other data which is used as a benchmark for making comparisons to assess the impact of development.
cm	Centimetre
dB	Decibel
Decommissioning	The period during which a development and its associated processes are removed from active operation.
Development Consent Order (DCO)	This is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects, under the Planning Act 2008.
Development Consent Order (DCO) Application	An application for consent to undertake a Nationally Significant Infrastructure Project made to the Planning Inspectorate who will consider the application and make a recommendation to the Secretary of State, who will decide on whether development consent should be granted for the Proposed Development.
Embedded environmental measures	Equate to 'primary environmental measures' as defined by Institute of Environmental Management and Assessment (2016). They are measures to avoid or reduce environmental effects that are directly incorporated into the preferred masterplan for the Proposed Development.
Environmental Statement (ES)	The written output presenting the full findings of the Environmental Impact Assessment.
HDD	Horizontal Directional Drilling
Impact	The changes resulting from an action.

Term (acronym)	Definition
Inshore	The sea up to two miles from the coast.
Joint Nature Conservation Committee (JNCC)	JNCC is the public body that advises the UK Government and devolved administrations on UK-wide and international nature conservation.
km	Kilometre
km²	Squared Kilometre
KMEG	Kingmere MCZ Engagement Group
m	Metre
Magnitude (of change)	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short term or long term in duration'. Also known as the 'degree' or 'nature' of change.
MCAA	The Marine and Coastal Access Act (2009)
Marine Conservation Zone (MCZ)	Marine Conservation Zone (MCZ) is a type of marine nature reserve in UK waters. They were established under the Marine and Coastal Access Act (2009) and are areas designated with the aim to protect nationally important, rare or threatened habitats and species.
Marine Management Organisation (MMO)	MMO is an executive non-departmental public body, sponsored by the Department for Environment, Food & Rural Affairs. MMO license, regulate and plan marine activities in the seas around England so that they're carried out in a sustainable way.
MCAA	Marine and Coastal Access Act 2009
MEEB	Measures of Equivalent Environmental Benefit
Natural England	The government advisor for the natural environment in England. NE is the

Term (acronym)	Definition
	Statutory Nature Conservation Body (SNCB) for England.
Offshore	The sea further than two miles from the coast.
Offshore Wind Farm	An offshore wind farm is a group of wind turbines in the same location (offshore) in the sea which are used to produce electricity.
Onshore	Landward of Mean High Water Spring (MHWS)
Planning Inspectorate	The Planning Inspectorate deals with planning appeals, national infrastructure planning applications, examinations of local plans and other planning-related and specialist casework in England and Wales.
Proposed Development	The development that is subject to the application for development consent
Rampion 1	The existing Rampion Offshore Wind Farm located in the English Channel in the south of England.
RED	Rampion Extension Development Limited
Secretary of State	The Minister for Department for Energy Security and Net Zero (DESNZ).
SEL	Sound Exposure Level
Significance	A measure of the importance of the environmental effect, defined by criteria specific to the environmental aspect.
SNCB	Statutory Nature Conservation Body
Spawning	The release or deposition of eggs and sperm, usually into water, by aquatic animals.
SPL	Sound Pressure Level
Study area	Area where potential impacts from the Proposed Development could occur, as defined for each aspect.

Term (acronym)	Definition
Subtidal	The region of shallow waters which are below the level of low tide.
Temporal Scope	The temporal scope covers the time period over which changes to the environment and the resultant effects are predicted to occur and are typically defined as either being temporary or permanent.
Temporary Threshold Shift (TTS)	A temporary reduction in an animals sensitivity to sound.
The Applicant	Rampion Extension Development Limited (RED)
UK	United Kingdom
Water Framework Directive (WFD)	A substantial piece of EU water legislation that came into force in 2000, with the overarching objective to get all water bodies in Europe to attain Good or High Ecological Status. River Basin Management Plans have been created which set out measures and potential mitigation to ensure that water bodies in England and Wales achieve 'Good Ecological Status'.
WTG	Wind Turbine Generator

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Rampion 2
WIND FARM