Morecambe Offshore Windfarm: Generation Assets

Volume 4

Planning, Development Consent and Need Statement (Tracked)

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Glossary of Abbreviations

AA	Appropriate Assessment
AONB	Area of Outstanding Natural Beauty
APFP	The Infrastructure Planning (Applications: Prescribed Forms and Procedure) of the Regulations 2009
AR	Allocation Round
ASP	Administrative Strike Price
AtNMP	Aids to Navigation Management Plan
BEIS	Department for Business, Energy and Industrial Strategy
BESS	British Energy Security Strategy
BNG	Biodiversity Net Gain
CA1	Calder Platform
CAA	Civil Aviation Authority
CA	Competent Authority
CBD	Convention on Biological Diversity
CBRA	Cable Burial Risk Assessment
CCA2008	Climate Change Act of 2008
CCC	Committee on Climate Change
CfD	Contract for Difference
CMP	Construction Monitoring Plan
CNP	Critical National Priority
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
CROW 2000	Countryside and Rights of Way Act 2000
DASA	Defence and Security Accelerator
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
DESNZ	Department for Energy Security and Net Zero
DFS	Demand Flexibility Service
DIO	Defence Infrastructure Organisation
DLUHC	Department for Levelling Up, Housing & Communities
DML	Deemed Marine Licence
DP3	South Morecambe Platform, also known as DP3
DSR	Demand Side Response
DUKES	Digest of UK Energy Statistics

EAF	Electric Arc Furnaces
EEA	European Economic Area
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EOR	Environmental Outcomes Report
EPR	European Pressurised Reactor
EPS	European Protected Species
ESO	Electricity System Operator
EU	European Union
EUWA2018	The European Union (Withdrawal) Act 2018
EVs	Electric Vehicles
FID	Final Investment Decision
FTE	Full Time Equivalent
GBS	Gravity Base Structures
GES	Good Environmental Status
GHG	Greenhouse Gas Emissions
GVA	Gross Value Added
HAT	Highest Astronomical Tide
HNDR	Holistic Network Design Review
HPC	Hinkley Point C
HRA	Habitats Regulations Assessment
INECP	Integrated National Energy and Climate Plan
IPCC	Intergovernmental Panel on Climate Change
IPMP	In Principle Monitoring Plan
IROPI	Imperative Reasons of Overriding Public Interest
LAT	Lowest Astronomical Tide
LCCC	Low Carbon Contracts Company
LCD	Longstop Contract Date
LEA	Local Economic Area
LEC	Low-level Energy Cost
LIR	Local Impact Report
LNG	Liquified Natural Gas
LNR	Local Nature Reserve
LPA	Local Planning Authority
LSE	Likely Significant Effect
LURB	Levelling-Up and Regeneration Bill

MCAA	The Marine and Coastal Access Act 2009
MCZ	Marine Conservation Zone
MEEB	Measures of Equivalent Environmental Benefits
MGN	Marine Guidance Note
MMEA	Manx Marine Environmental Assessment
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
MOD	Ministry of Defence
MPs	Marine Plans
MPD	Marine Policy Documents
MPS	Marine Policy Statement
MRF	Marine Recovery Fund
MS	Member State
MSFD	Marine Strategy Framework Directive
NDC	Nationally Determined Contribution
NE	Natural England
NIA2	Second National Infrastructure Assessment
NIC	National Infrastructure Commission
NMC	Non-Material Change
NNR	National Nature Reserve
NP	National Park
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project
NSN	National Site Network
NSTA	North Sea Transition Authority
OBR	Office of Budget Responsibility
OEP	Office of Environmental Protection
Ofgem	Office of Gas and Electricity Markets
OLR	Offshore Licensing Round
OOMP	Offshore Operations and Maintenance Plan
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OREI	Offshore Renewable Energy Installation
OSP	Offshore Substation Platform
OTNR	Offshore Transmission Network Review
OWEIP	Offshore Wind Environmental Improvement Package
OWES	Offshore Wind Environmental Standards

PA2008	The Planning Act 2008, as amended
PATP	Port Access and Transport Plan
PDE	Project Design Envelope
PEIR	Preliminary Environmental Information Report
PEMP	Project Environmental Management Plan
PEXA	Practice and Exercise Areas
PINS	Planning Inspectorate
PPG	Planning Practice Guidance
REMA	The Review of Electricity Market Arrangements
RIAA	Report to Inform Appropriate Assessment
SAC	Special Area of Conservation
SLVIA	Seascape, Landscape and Visual Impact Assessment
SoS	Secretary of State
SPA	Special Protection Area
SSEP	Strategic Spatial Energy Plan
SSSI	Site of Special Scientific Interest
SSW	Sudden Stratospheric Warmings
STOC	Short Term Operating Contracts
STOR	Short Term Operating Reserve
TCE	The Crown Estate
TH	Trinity House
UK	United Kingdom
UKHO	United Kingdom Hydrographic Office
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
UXO	Unexploded Ordnance
WCA	Wildlife & Countryside Act 1981
WSI	Written Scheme of Investigation
WTG	Wind Turbine Generator

Glossary of Unit Terms

°	degree
°C	degree Celsius
%	percent
£	Great British Pounds
GJ	Gigajoules
GW	Gigawatt
GWh	Gigawatt hours
km	kilometre
km^2	square kilometre
kV	kilovolt
m	Metre
m^2	square metre
m^3	cubic metre
Mt	million tonnes
Mtoe	Million Tons of Oil Equivalent
MW	Megawatt
MWh	Megwatt hours
nm	nautical mile
Toe	Tonne of Oil Equivalent
TWh	Terawatt Hour
US$	US Dollars

Glossary of Terminology

Applicant	Morecambe Offshore Windfarm Ltd
Application	This refers to the Applicant's application for a Development Consent Order (DCO). An application consists of a series of documents and plans which are published on the Planning Inspectorate's (PINS) website.
Agreement for Lease (AfL)	Agreements under which seabed rights are awarded following the completion of The Crown Estate tender process.
Dead Wreck	Wrecks which have not been detected by repeated surveys and are therefore considered not to exist.
Environmental Net Gain	An approach to development that aims to leave the natural environment in a measurably better state than beforehand.
Fisherman's Fastener	An unidentified seabed obstruction reported by fishers.
Generation Assets (the Project)	Generation assets associated with the Morecambe Offshore Windfarm. This is infrastructure in connection with electricity production, namely the fixed foundation wind turbine generators (WTGs), inter-array cables, offshore substation platform(s) (OSP(s)) and possible platform link cables to connect OSPs.
Inter-array cables	Cables which link the WTGs to each other and the OSP(s).
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The transmission assets for the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm. This includes the offshore substation platforms (OSPs)[1] interconnector cables, Morgan offshore booster station, offshore export cables, landfall site, onshore export cables, onshore substations, 400kV cables and associated grid connection infrastructure such as circuit breaker infrastructure. Also referred to in this document as the Transmission Assets, for ease of reading.
Offshore export cables	The cables which bring electricity from the offshore substation platform to the landfall.
Offshore substation platform(s)	A fixed structure located within the windfarm site, containing electrical equipment to aggregate the power from the WTGs and convert it into a more suitable form for export to shore.
Onshore export cables	The cables which would bring electricity from landfall to the onshore project substation and from the onshore project substation to a National Grid substation.

[1] At the time of writing the Environmental Statement (ES), a decision had been taken that the Offshore Substation Platforms (OSPs) would remain solely within the Generation Assets application and would not be included within the Development Consent Order (DCO) application for the Transmission Assets. This decision post-dated the Preliminary Environmental Information Report (PEIR) that was prepared for the Transmission Assets. The OSPs are still included in the description of the Transmission Assets for the purposes of this document as the Cumulative Effects Assessment (CEA) carried out in respect of the Generation/Transmission Assets is based on the information available from the Transmission Assets PEIR.

Platform link cable	An electrical cable which links one or more offshore substation platforms.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations due to the flow of water.
Windfarm site	The area within which the WTGs, inter-array cables, OSP(s) and platform link cables will be present.
Wind turbine generator (WTG)	A fixed structure located within the windfarm site that converts the kinetic energy of wind into electrical energy.
Years of Employment	A measure of temporary employment used in the context of development and construction jobs. For instance, a job lasting for a period of 18 months can be considered as accounting for 1.5 years of employment

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1 Introduction

1.1 About the Applicant

1. The Applicant is Morecambe Offshore Windfarm Ltd, a joint venture between Zero-E Offshore Wind S.L.U. (Spain) (a Cobra group company), and Flotation Energy Ltd (Flotation Energy).

2. With 80 years of experience, Cobra is a historically significant Group in the development of industrial infrastructure and service provision, and one of the key players in the renewable energy sector in Spain and Latin America. The Group possesses the capacity and determination to develop, build, and operate industrial and energy infrastructures that demand a high level of service, grounded in excellence in integration, technological innovation, and financial robustness. Their unrivalled knowledge and understanding of floating offshore wind developments is a significant advantage in delivering high quality and efficient projects, coupled with their commitment to environmental stewardship. Their experience as a major player in offshore wind is based on a 50MW project in operation and over 11.2GW under development.

3. Flotation Energy, headquartered in Edinburgh, Scotland, sits at the heart of the energy transition. It's determined to support the big switch to sustainable, clean and affordable energy through the application of innovative offshore wind technology. An ambitious offshore wind developer, Flotation Energy has a 13GW portfolio that covers both fixed and floating developments globally, with projects in the UK, Ireland, Taiwan, Japan and Australia. Whilst Flotation Energy develops projects independently, it also recognises the strategic value of partnership and collaboration to deliver proven, cost-effective solutions.

1.2 Purpose of this document

4. This document, **Planning, Development Consent and Need Statement** (referred as "The Planning Statement) (Document Reference 4.8), forms part of the Development Consent Order (DCO) Application for the Project.

5. The Project relates only to the Generation Assets (including wind turbine generators (WTGs), inter-array cables, offshore substation platform(s) (OSP(s)) and possible platform link cables to connect OSPs). A separate DCO Application for the Transmission Assets associated with the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project (another proposed windfarm to be located in the Irish Sea) will be made.

6. This Planning Statement has been produced on behalf of the Applicant and is submitted as part of the DCO Application for the Project. This is one of a series of documents which accompany the Application in order to assist the Secretary of State (SoS) to determine the Application.

7. This document should be read in conjunction with the **National Policy Statements Accordance Report** (Document Reference 4.14) which demonstrates the accordance of the Project with all the relevant policies of the National Policy Statements (NPS).

8. This document has been submitted in accordance with Section 37 of the Planning Act 2008 (PA2008) and Regulations 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (the APFP Regulations). The APFP Regulations do not require a Planning Statement to support applications for development consent. However, in order to assist the SoS to determine the application, it is considered helpful to bring all the important and relevant matters together, including matters of planning balance, into one statement in order to consider them in the context of relevant law and policy.

   - **Chapter 1** – provides an introduction to the Project (including its Objectives) and the Applicant (including its vision for the Project)
   - **Chapter 2**– describes the Project in summary form
   - **Chapter 3** – sets out the legal and policy context for the examination and determination of the DCO Application
   - **Chapter 4** – sets out the need for the Project as defined by the National Policy Statements (NPSs)
   - **Chapter 5** – sets out the approach to mitigation and how the Project complies with policy on conditions and requirements of DCOs
   - **Chapter 6** – provides overall conclusions on the recommendation to be made, including on the planning balance

1.3 Project Vision and Objectives

9. The Applicant's vision set out on the Project's homepage (Morecambe Offshore Wind Ltd 2024) is to make a substantial contribution to the UK's ability to generate clean power from offshore wind and, in particular, to support the UK's ambitions to:

" Lead the world in combatting climate change, reducing our reliance on fossil fuels and embracing a future where renewable energy powers our homes and businesses.

Morecambe Offshore Windfarm has a nominal capacity of 480MW, which is enough to power over half a million households. It will also contribute to the UK Government's commitment to:

- *Generate 50GW of power from offshore wind by 2030*
- *Reach net zero by 2050*

It is located approximately 30km from the Lancashire coast".

10. The Project's Objectives are set out in **Table 1.1**.

Table 1.1 The Project's Objectives

ID	Objective	Basis for the Objective (emphasis added)
1	**Decarbonisation:** Generate around 480MW of low carbon electricity from an offshore windfarm, in support of the Net-Zero by 2050 target and UK Government ambition to deliver 50GW of offshore wind by 2030	National UK policy, set out in section 2.2, "*Net Zero by 2050"*, of NPS EN-1 is that *"2.2.1 In June 2019 the UK became the first major economy to* ***legislate for a 2050 net zero Greenhouse Gases*** *('GHG') emissions target through the Climate Change Act 2008 (2050 Target Amendment) Order 2019.* [22] *…. In April 2021, the government legislated for the sixth carbon budget (CB6), which requires the UK to reduce GHG emissions by 78 per cent by 2035 compared to 1990 levels" and that "2.3.2 In October 2021 the government published the Net Zero Strategy".* *On the basis of the need to deliver the* project by 2030 national policy in section 4.2 *"The critical national priority for low carbon infrastructure"* is that *"4.2.2…..Our energy security and* ***net zero ambitions will only be delivered if we can enable the development of new low carbon sources of energy at speed*** *and scale* "and that *"4.2.4 Government has therefore concluded that* ***there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure****".*
2	**Security of supply**: Provide significant electricity generation capacity within the UK to support commitments for offshore wind generation and security of supply	National UK policy set out in section 2.5, "*Security of Supplies"*, of NPS EN-1 is that: *"2.5.1 Given the vital role of energy to economic prosperity and social well-being, it is* ***important that our supplies of energy remain secure, reliable and affordable****"* And that *"2.5.6 The British Energy Security Strategy*[33] *emphasises the importance of addressing our underlying vulnerability to international energy prices by* ***reducing our dependence on imported oil and gas****, improving energy efficiency, remaining open minded about our onshore reserves including shale gas, and* ***accelerating deployment of renewables,*** *nuclear, hydrogen, CCUS, and related network infrastructure, so as to ensure a domestic supply of clean, affordable, and secure power as we transition to net zero".* And that *"3.3.21 As part of delivering this, UK government announced in the British Energy Security Strategy*[45] *an ambition to deliver up to 50 gigawatts (GW) of offshore wind by 2030".*
3	**Affordability**: Maximise generation capacity at low cost to the consumer from viable developable seabed within the	National UK policy set out in section 3.3, *The need for new nationally significant electricity infrastructure*, of NPS EN-1 is that: *"3.3.13 The Net Zero Strategy*[41] *sets out the government's ambition for increasing the deployment of low carbon energy infrastructure consistent with delivering our carbon budgets and the 2050 net zero*

ID	Objective	Basis for the Objective (emphasis added)
	constraints of available sites and grid infrastructure	*target. This made clear the commitment that **the cost of the transition to net zero should be fair and affordable**"* And that: *"3.3.16 If demand for electricity doubles by 2050, we will need a fourfold increase in low carbon generation and significant expansion of the networks that transport power to where it is needed. In addition, we committed in the Net Zero Strategy[43] to take action so that by 2035, all our electricity will come from low carbon sources, subject to security of supply, whilst meeting a 40-60 per cent increase in electricity demand. **This means that the majority of new generating capacity needs to be low carbon**"* And that: *"3.3.20 **Wind and solar are the lowest cost ways of generating electricity**, helping reduce costs and providing a clean and secure source of electricity supply (as they are not reliant on fuel for generation). Our analysis shows that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar".*
4	**Coordination**: Coordinate and coexist with other activities, developers and operators to use previously developed seabed to deliver the Project and its skills, employment and investment benefits in the Local Economic Area.	National UK policy set out in section 3.3, *"The need for new nationally significant electricity infrastructure"*, of NPS EN-1 is that: *"3.3.71…For regions with multiple windfarms or offshore transmission projects **it is expected that a more co-ordinated approach** will be delivered. For these areas, this approach is likely to reduce the network infrastructure costs as well as the cumulative environmental impacts and impacts on coastal communities by installing a smaller number of larger connections, each taking power from multiple windfarms instead of individual point-to-point connections for each windfarm"* And in section 4.1, *"General Policies and Considerations"*, that: *"4.1.5 In considering any proposed development, in particular when weighing its adverse impacts against its benefits, the Secretary of State **should take into account: • its potential benefits including its contribution to meeting the need for energy infrastructure, job creation, reduction of geographical disparities, environmental enhancements, and any long-term or wider benefits".*** And within section 4.2 *"HRA derogations and MCZ assessments for CNP Infrastructure"* that *"4.2.21 For both **derogations**, the Secretary of State will consider the particular circumstances of any plan or project, but starting from the position that energy security and decarbonising the power sector to combat climate change: • **requires a significant number of deliverable locations for CNP Infrastructure and for each location to maximise its capacity**. This **NPS imposes no limit on the number of CNP infrastructure projects that may be consented**. Therefore, the fact that there are **other potential plans or projects deliverable in different locations to meet the need for CNP Infrastructure is unlikely to be treated as an alternative solution**".*

ID	Objective	Basis for the Objective (emphasis added)
		National UK policy set out in section 2.8 "*Offshore Wind"* of NPS EN-3 is that: *"2.8.48 Applicants are encouraged to w**ork collaboratively with those other developers and sea users on co-existence/co-location opportunities**, shared mitigation, compensation and monitoring where appropriate. Where applicable, the creation of statements of common ground between developers is recommended. Work is ongoing between government and industry to support effective collaboration and find solutions to facilitate greater co-existence/co-location".* National policy set out in 5.13 Socio-economic impacts of NPS EN-1 is that: *"5.13.11 The Secretary of State should consider **any relevant positive provisions the applicant has made or is proposing to make to mitigate** impacts (for example through planning obligations) and any legacy benefits that may arise as well as any options for phasing development in relation to the socio-economic impacts.* *5.13.12 The Secretary of State may wish to include a requirement that specifies the approval by the local authority of an **employment and skills plan detailing arrangements to promote local employment and skills development opportunities**, including apprenticeships, education, engagement with local schools and colleges and training programmes to be enacted".*

1.4 Project summary

11. The Project relates only to the Generation Assets of the Morecambe Offshore Windfarm (including wind turbine generators (WTGs), inter-array cables, offshore substation platform(s) (OSP(s)) and possible platform link cables to connect OSPs). A separate consent for the Transmission Assets associated with the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project (another proposed windfarm to be located in the Irish Sea) will be sought, as explained below.

12. Both the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project have been scoped into the Pathways to 2030 workstream, under the Offshore Transmission Network Review (OTNR). Under the OTNR, the National Grid Electricity System Operator is responsible for conducting a Holistic Network Design Review (HNDR) to assess options to improve the coordination of offshore wind generation connections and transmission networks. In July 2022, the UK Government published the Pathway to 2030 Holistic Network Design documents, which set out the approach to connecting 50GW of offshore wind to the UK electricity network (National Grid ESO, 2022). The output of this process concluded that the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project should work collaboratively in connecting the windfarms to the National Grid at Penwortham in Lancashire. The Applicant was involved in this process and supports this decision.

13. The Transmission Assets, which will enable export of electricity from both the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project to the National Grid connection point, will be subject to consent under a separate DCO Application. The Transmission Assets comprise OSPs for both the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project[2], shared offshore export cable corridors, their landfall arrangements, shared onshore export cable corridors to new onshore substation(s), and onward connection to the National Grid electricity transmission network at Penwortham, Lancashire. An offshore booster station may also be required along the offshore export cable route for the Morgan Offshore Wind Project. The coordination of the Project with other projects and the benefits that secures, are key to delivering on the stated "*Coordinatio*n" objective (4) of the Project.

14. The description of other projects can be found in **Section 2.1.3**.

[2] At the time of writing, a decision had been taken that the OSPs would remain solely within the Generation Assets application and would not be included within the DCO application for the Transmission Assets. This decision post-dated the Preliminary Environmental Information Report (PEIR) that was prepared for the Transmission Assets. The OSPs are still included in the description of the Transmission Assets for the purposes of this document as the Cumulative Effects Assessment (CEA) carried out in respect of the Generation/Transmission Assets is based on the information available from the Transmission Assets PEIR.

1.5 List of other consents and licences

15. Other consents that may be required the Project beyond the consents permitted under the DCO (and Deemed Marine Licence (DML)) are outlined in **Table 1.2**.

Table 1.2 Other consents required for this Project

Nature of Consent	Consenting Authority
Appropriate Assessment and Habitat Regulations Assessment (part of DCO and Deemed Marine Licence (DML) process)	Department for Energy Security and Net Zero (DESNZ)
Coastal Station Radio Licence	Office of Communications (Ofcom)
Decommissioning Scheme	Department for Energy Security and Net Zero (DESNZ)
European Protected Species (EPS) Licence for piling and UXO clearance	Marine Management Organisation (MMO)
Energy Generation Licence (licence already obtained)	Office of Gas and Electricity Markets (OfGEM).
F10 – Notification of Construction Project	Health and Safety Executive (HSE)
Marine Licence for unexploded ordnance (UXO) identification and clearance (if required)	MMO
Safety Zones	DESNZ
The Crown Estate Beneficial Use Agreement	The Crown Estate

16. Further information on other consents and licences required for the Project can be found in **Other Consents and Licences Required** (Document Reference 4.15).

1.6 Matters not applicable to the Application

17. In January 2023 the Project successfully obtained and agreement for lease (AfL) of the seabed within the proposed order limits, from TCE, as set out in the ES in section 4.4.3 of **Chapter 4 Site Selection and Assessment of Alternatives** (Document Reference 5.1.4). Since no other land or property rights are required for the development of the Project, the **Draft DCO** (Document Reference 3.1) proposed in this application would not authorise any powers of acquisition of land or any interest in land or right over land, or any temporary possession or other property right or right of navigation. Consequently Regulation 5(2)(d), (k) and (h) respectively of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (APFP) do not, in the case of this application, require any Book of Reference,

nor any Statement of Reasons or Funding Statement or an Access and Rights of Way Plan, and therefore none are included with this application.

18. However, for completeness and in compliance with APFP regulations 5(2)(n), a **Crown Land Plan** (Document Reference 2.2) showing the extent of the Crown interest over the area within the proposed Order Limits which it is proposed to use for the purposes of the DCO, for which an application is being made, is included as part of this application.

19. NPS EN-1 policy on the financial and technical viability of the Project is addressed in Table 2.1 of the **National Policy Statement Accordance Report** (Document Reference 4.14).

2 Project Description

20. This section describes the physical components of the Project throughout its lifecycle: how it will be constructed, operated, maintained, and decommissioned. A full description of the Project is in **Chapter 5 Project Description** of the Environmental Statement (ES) (Document Reference 5.1.5).

2.1 Description of the Project

2.1.1 Site location

21. The location of the Project is illustrated in the **Offshore Location Plan** (Document Reference 2.1).

22. The Project is located entirely offshore and is located in the east Irish Sea. It is approximately 30km from the nearest part of the site to the Lancashire Coast, 58km from the coastline of the Isle of Man, 37km from the UK and the Isle of Man jurisdictional boundary, and 50km from the north coast of Wales.

2.1.2 Site description

2.1.2.1 Within the windfarm site

23. The Project windfarm site covers an area of approximately 87km^2.

24. Water depths within the site range from 18m below the Lowest Astronomical Tide (LAT), in the eastern part of the windfarm site, to 40m below LAT, in the southwest of the windfarm site. The seabed gradient across the site is very gentle, with slopes of less than 1° across most of the site.

25. The Irish Sea has active oil and gas exploration and potential carbon storage, which overlap with the windfarm site. Their locations are illustrated in **Figure 5.2** of **Chapter 5 Project Description** (Document Reference 5.3.5) and **Figure 17.3** of **Chapter 17 Infrastructures and Other Users Figures** (Document Reference 5.3.17).

26. The windfarm site overlaps with the existing South Morecambe and Calder gas fields and is in proximity to existing infrastructure of gas platforms, pipelines, cables and wells. The South Morecambe DP3 platform (charted within the windfarm site) has now been decommissioned and the platform topsides and jacket have been removed. The nearest active platforms to the Project are the Calder CA1 platform (0.9km west of the windfarm site) and the South Morecambe Central Processing Complex (CPC) (1.6km to the north of the windfarm site). CPC consists of bridge linked platforms including an accommodation platform (AP1), central production platform (CPP1), drilling platform (DP1) and associated flare platform (FL1). South Morecambe

platforms and infrastructure are owned and operated by Spirit Energy. Calder CA1 is owned by Harbour Energy and operated by Spirit Energy. The Calder to Rivers Onshore Terminal gas pipeline runs through the windfarm site.

27. The telecommunication cable EXA Atlantic (formerly GTT Hibernia Atlantic) traverses the windfarm site in a west-east direction. The Lanis 1 telecom cable, owned by Vodafone, runs along the southern edge of the windfarm site, defining the southern boundary.

28. In relation to historic environment and archaeological features, there are two United Kingdom Hydrographic Office (UKHO) records (8069 and 8293) within the windfarm site, which are identified as foul ground originating from records of 'fishermen's fasteners', places where fishers have snagged their fishing gear. There is also a dead wreck (which is a wreck that has not been detected by repeated surveys and is therefore considered not to exist) to the north of the windfarm site, but no acknowledged shipwrecks within the windfarm site. The location of other wrecks near the Project is illustrated in **Historic Environment Plan** (Document Reference 2.7) and further details are set out in **Chapter 15 Marine Archaeology and Cultural Heritage** of the ES (Document Reference 5.1.15). The windfarm site does not contain any Practice and Exercise Area (PEXAs) or sites for disposal or extracting minerals and aggregates.

29. On 31st January 2024, the North Sea Transition Authority (NSTA) announced the locations of the second tranche of the 33rd Offshore Licensing Round (OLR). The 33rd OLR was launched on the 7th October 2022 with licencing blocks available surrounding and overlapping with the Project site (NSTA, 2023), shown in **Figure 17.3** of **Chapter 17 Infrastructure and Other Users Figures** (Document Reference 5.3.17). A total of 27 licences were awarded in 2023 relating to the priority areas in the central and northern North Sea, and West of Shetland. On 3rd May 2024 the NSTA announced the Tranche 3 awards for the 33rd Round, comprising of 31 new licences made up of 88 blocks/part blocks in the Central North Sea, East Irish Sea and the Southern North Sea, with two located within the Irish Sea to the North and West of the windfarm site.

30. An appraisal licence for carbon storage (CS010) was awarded to Spirit Energy Production UK Ltd on 15th September 2023. This covers the east Irish Sea Area 1 Carbon Storage. It covers an area of seabed comprising depleted oil and gas reservoirs potentially capable of storing carbon dioxide. A small proportion of the Irish Sea Area 1 overlaps with part of the windfarm site. In 2024 Spirit Energy is coordinating geotechnical surveys with seismic surveys being conducted for CS exploration.

2.1.2.2 Beyond the site

31. As noted above, the Calder CA1 platform, is located 0.9km to the west of the western site boundary and is an active remote drilling platform. A subsea pipeline from CA1 traverses the windfarm site easterly and exits the site in a northeasterly direction. South Morecambe CPC is located 1.6km to the north of the windfarm site.

32. The Isle of Man/UK Interconnector is 15km north of the windfarm site. Several cables cross south of the windfarm site, with a prevailing east-west direction.

33. The Irish Sea has several established offshore windfarms (OWFs). On a strategic level, established windfarms are closer to the coastline, whereas newer and proposed OWFs are typically further offshore. The OWFs located closer to the shore are attributable to earlier OWF leasing rounds, which began in 2003. North Hoyle OWF, for example, was part of the first leasing round, and was the UK's first operational commercial OWF.

34. Existing operational windfarms are situated to the north and south of the windfarm site. West Duddon Sands and Walney 1 to 4 OWFs (including extensions) are between approximately 12km and 20km north of the site respectively. Beyond West Duddon Sands OWF, are Barrow and Ormonde OWFs, which are closer to the coastline of Barrow-In-Furness, in Cumbria.

35. Approximately 30-40km to the south of the windfarm site, and beyond the coastline of Wales, are Burbo Bank, Burbo Bank Extension, North Hoyle, Gwynt y Môr and Rhyl Flats OWFs. Other proposed OWF projects are discussed in **Section 2.1.3**.

2.1.3 Other Development Projects

36. Within 50km of the Project, five other offshore wind projects are either consented or planned. The locations of these projects are shown in **Figure 5.2** of **Chapter 5 Project Description** (Document Reference 5.3.5) and their attributes are in **Table 2-1**.

37. The first two out of these five projects are related to the Project, due to the proposed separate DCO application being made in relation to the Transmission Assets associated with the Project and the Morgan Offshore Wind Project:

- Morgan and Morecambe Offshore Wind Farms: Transmission Assets
- Morgan Offshore Wind Project: Generation Assets
- Mona Offshore Wind Project
- Mooir Vannin Offshore Wind Farm
- Awel y Môr Offshore Wind Farm

38. The Morgan Offshore Wind Project Generation Assets is commercially and financially distinct from the Project. The Morgan Offshore Wind Project Generation Assets is being developed by Morgan Offshore Wind Limited, a joint venture between bp Alternative Energy Investments Ltd. (bp) and Energie Baden-Württemberg AG (EnBW). At 37km from the coast of northwest England, and 22km from the Isle of Man, the Morgan windfarm site is further offshore than the Applicant's Project and extends up to the UK's jurisdictional boundary with the Isle of Man. Morgan Offshore Wind Project Generation Assets has a nominal capacity of 1.5GW and a DCO Application for the project was received by the Planning Inspectorate (PINS) on 24th April 2024, and accepted for examination on 17th May 2024.

39. Morgan and Morecambe Offshore Wind Farms: Transmission Assets refer to both the offshore and onshore assets for transmitting electricity generated from the Applicant's Project and the Morgan Offshore Wind Project Generation Assets to the National Grid connection point. **Plate 2.1** illustrates the schematic components of the Generation Assets in blue and the components for the Transmission Assets in green. The Transmission Assets are planned to include shared offshore and onshore cable corridors (containing separate cables for both projects) connecting to onshore substations for each project, with subsequent onward cable connection to the National Grid at Penwortham, Lancashire. A separate joint DCO Application for the Transmission Assets is planned to be made in 2024 by the Applicant and the Applicant of the Morgan Offshore Wind Project (Morgan Offshore Wind Limited).

40. Mona Offshore Wind Project is another OWF being developed by bp and EnBW in the Irish Sea. Mona is situated entirely in Welsh waters, 28km from the North Wales coastline, 46km from the northwest coast of England and 46km from the Isle of Man. Mona Offshore Wind Project has a nominal capacity of 1.5GW and includes a landfall point near Llanddulas, Conwy, on the North Wales coastline, and a point of connection to the existing Bodelwyddan National Grid substation, in Denbighshire. PINS received a DCO Application for the Mona Offshore Wind Project on 22nd February 2024 and accepted it for examination on 21st March 2024.

41. Further afield is the proposed Mooir Vannin Offshore Wind Farm. This Project is proposed by Mooir Vannin Offshore Wind Farm Limited, which is ultimately owned by Ørsted A/S and has a planned generating capacity of up to 1.4GW. Mooir Vannin is the first OWF planned within the Isle of Man's territorial waters, between 6 and 12nm off the eastern coast of the Island. An application for consent to build the Mooir Vannin OWF is expected to be submitted to be determined by authorities on the Isle of Man in 2025.

42. Awel y Môr OWF is located 10.5km off the Welsh Coast in the Irish Sea and to the west of the existing Gwynt y Môr OWF. It secured Approval of its DCO from the SoS for the Department for Energy Security and Net Zero (DESNZ)

and Marine Licences from Natural Resources Wales (NRW) in 2023. It will become Wales' largest renewable energy project when operational, generating an anticipated capacity of up to 1.1GW, depending on final design parameters.

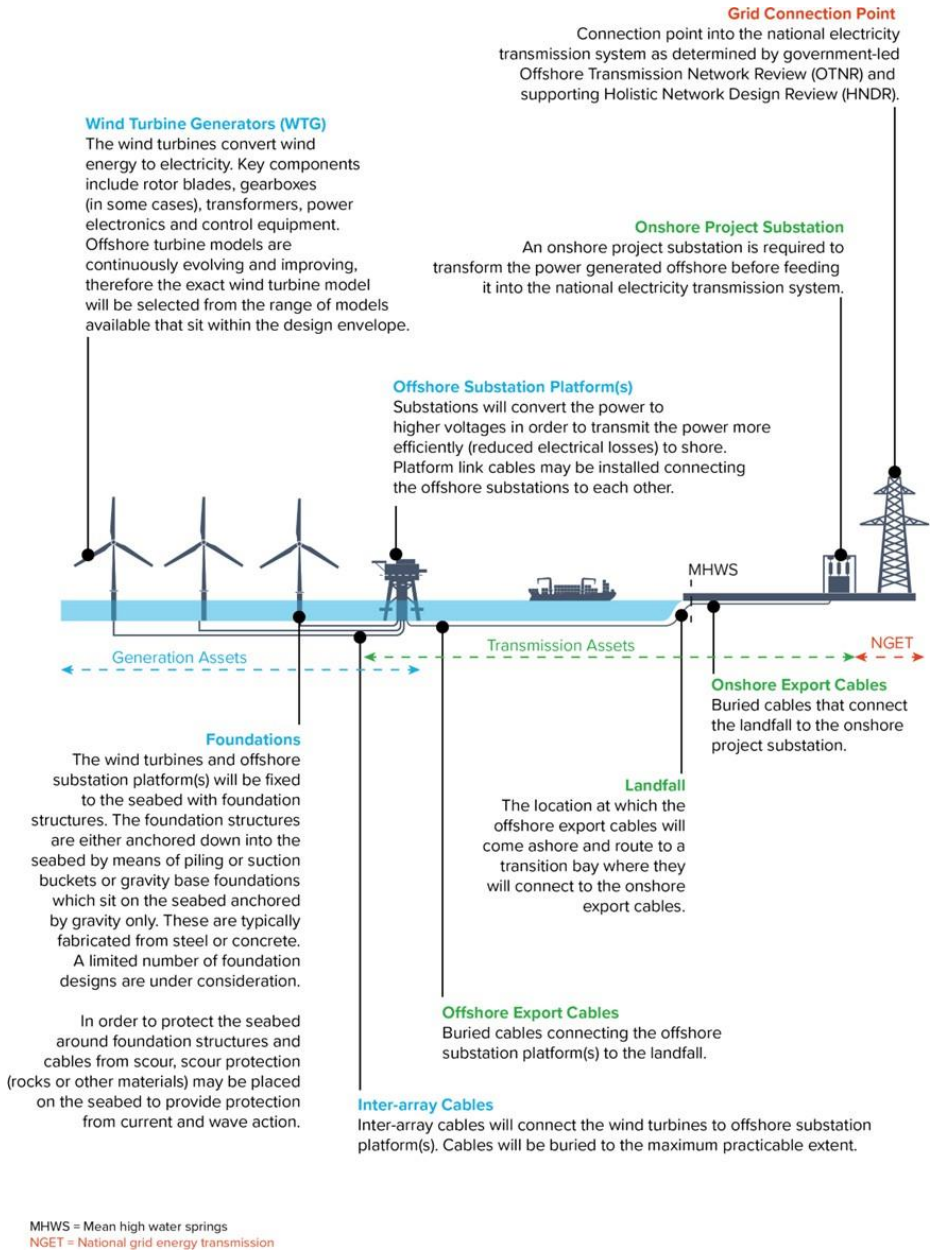

Plate 2.1 Schematic components of Morecambe Offshore Windfarm Generation Assets ('the Project') are in blue. The components of Morgan and Morecambe Offshore Wind Farm: Transmission Assets ('Transmission Assets') are in green[3].

[3] At the time of writing, a decision had been taken that the OSPs would remain solely within the Generation Assets application and would not be included within the DCO application for the Transmission Assets. This decision post-dated the Preliminary Environmental Information Report (PEIR) that was prepared for the Transmission Assets. The OSPs are still included in the description of the Transmission Assets for the purposes of this document as the Cumulative Effects Assessment (CEA) carried out in respect of the Generation/Transmission Assets is based on the information available from the Transmission Assets PEIR.

Table 2.1 Properties of other consented and planned Projects in the Irish Sea

Project	Distance to this Project (km)	Location interaction	Status
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	Adjacent	The Project and the Morgan Offshore Wind Project share the same offshore and onshore cable corridor, and landfall location.	DCO Application submission planned in 2024
Mona Offshore Wind Project	10.00	Near boundary of the Project.	DCO Application was received by PINS on 22nd February 2024 and was accepted for Examination on 21st March 2024.
Morgan Offshore Wind Project Generation Assets	16.70	Morgan and the Project are separate developments but share the same offshore and onshore export cable corridors as part of a joint Transmission Assets DCO Application.	DCO Application was received by PINS on 24th April 2024 and accepted for Examination on 17th May 2024.
Awel y Môr Offshore Wind Farm	28.89	None	Consented in 2023
Mooir Vannin Offshore Wind Farm	43.70	None	Consent submission planned in 2025

2.1.4 Statutory and Non-Statutory Sites for Nature Conservation

43. The windfarm site does not overlap with any statutory or non-statutory nature conservation designations. Part of the northern, and the entire eastern site boundary is directly adjacent to Liverpool Bay Special Protection Area (SPA). The SPA is classified for the protection of red-throated diver (*Gavia stellata*), common scoter (*Melanitta nigra*), and little gull (*Hydrocoloeus minutus*) in the non-breeding season; common tern (*Sterna hirundo*) and little tern (*Sterna albifrons*) in the breeding season, and an internationally important waterbird assemblage.

44. The locations of statutory and non-statutory conservation sites are shown in **Offshore Statutory and Non-Statutory Nature Conservation Sites Plan** (Document Reference 2.6).

2.2 Project Description

45. The key Project components comprise:

- Wind turbine generators (WTGs)
- Offshore Substation Platform(s) OSP(s)
- Subsea cables (inter-array cables connecting the WTGs and OSPs, and platform link cables connecting OSPs)

2.2.1 Project Design Envelope

46. The technologies for windfarms are continually evolving. Given that developing an offshore windfarm has a long lead time, some of the specific design details are undetermined at the time of submitting this DCO Application. These include:

- Precise number, location and configuration of the WTGs, OSP(s) and any associated development
- Type of foundation to install the turbines and OSP(s) and any associated development
- The exact height of the tip of the WTG rotors, blade lengths and the diameter of the rotors

47. These specific details will be decided post-consent, such that the latest technology, most up-to-date regulations and the most cost-effective solutions can be considered at a later stage.

48. Given that specific design details are not yet defined, a Project Design Envelope Approach (PDE Approach) has been adopted in the Project ES to determine maximum and minimum design parameters (design envelope) of the Project. The PDE Approach is usually adopted for offshore windfarm projects and has been recognised as being consistent with planning law[4] and by the Nationally Significant Infrastructure Projects (NSIP) (PINS) Advice Note Nine: Rochdale Envelope (V3, 2018).

49. The PDE Approach allows realistic worst-case scenarios to be assessed in the ES for each potential impact whilst maintaining design flexibility. This ensures that, provided final detailed design remains within the design envelope, its environmental effects have been fully assessed and the impacts will be no worse than those taken into account in the decision-making process. Please see **Chapter 6 EIA Methodology** (Document Reference 5.1.6) for further information on the PDE Approach. **Table 2.2**

[4] The approach is also known as the Rochdale envelope approach set out by the judgement in R v Rochdale MBC Ex p. Tew [2000] Env.L.R.1 which established that while it is not necessary or possible in every case to specify the precise details of development, the information contained in the ES should be sufficient to fully assess the project's impact on the environment and establish clearly defined worst case parameters for the assessment.

details the key parameters, which form the main limits of the PDE for the Project.

Table 2.2 Key parameters of the Project

Parameter	Specifications
Maximum number of WTGs	35
Maximum total rotor swept area (m^2)	1,858,252
Maximum height of WTGs when measured from HAT to the tip of the vertical blade (m)	310
Maximum rotor diameter of each WTG (m)	280
Minimum distance from HAT to the lowest point of the rotating blade for each WTG (m)	25
Minimum distance between WTG in a row of wind turbine generators (m)	1,060
Minimum distance between rows of WTGs (m)	1,410
Foundations	
Maximum diameter of monopiles for WTGs or OSPs on monopile foundations (m)	12
Maximum diameter of pin piles for WTGs or OSPs on multi-legged jackets with piling foundations (m)	3
Maximum diameter of gravity base at the seabed for WTGs or OSPs on gravity base structure foundations (m)	65
Maximum diameter of suction buckets for WTGs or OSPs on multi-legged jackets with suction bucket foundations (m)	20
Maximum total seabed footprint for WTG foundations (including scour protection) (m^2)	248,080
Maximum number of OSPs	2
Maximum dimensions of OSPs (excluding towers, helipads, masts, cranes and lightning protection):	
Height when measured from HAT (m)	50
Length (m)	50
Width (m)	50
Maximum total seabed footprint area for OSP foundations (including scour protection) (m^2)	14,176
Maximum total length of cables (inter-array and platform link cables) (km)	80
Maximum number of cable crossings	15
Maximum volume of natural material for disposal (m^3)	1,416,463
Maximum total footprint of scour protection (m^2) (exclusive of foundations for WTGs and OSPs)	139,490
Maximum total volume of scour protection for WTGs and OSPs (m^3)	278,980

Parameter	Specifications
Maximum footprint of cable protection (m^2) (including cable protection due to ground conditions, at entry points to OSPs and WTGs and at cable crossings)	216,250
Maximum volume of cable protection (m^3) (including cable protection due to ground conditions, at entry points to OSPs and WTGs and at cable crossings)	259,700

50. For the full range of parameters see **Chapter 5 Project Description** of the ES (Document Reference 5.1.5).

2.2.2 Wind Turbine Generators

51. The Project will have a nominal capacity of 480MW and comprise up to 35 WTGs. **Plate 2.2** illustrates a schematic design of a WTG. Each WTG is comprised of a tubular steel tower atop a foundation structure. At the top of the tower is a nacelle, which hosts the electrical generator, and a rotor with three blades rotating around a horizontal axis.

52. Colouring will be determined post consent through discharge of conditions of the DML within the **Draft DCO** (Document Reference 3.1), and in accordance with Marine Guidance Notes (MGN) 654 **(Section 3.5)**. However, the nacelles, blades and towers are expected to be coloured either RAL 7035 (light grey) or RAL 9010 (pure white). The rest of the structure would be coloured RAL 1023 (yellow), from HAT to a height directed by Trinity House (TH). The size and capacity of the WTGs will be determined post-consent. Therefore, only the maximum parameters for the WTG height, blade tip height and rotor size have been provided.

53. The maximum footprint of WTGs, including scour protection, is 248,080m^2, which is equivalent to approximately 0.28% of the windfarm site.

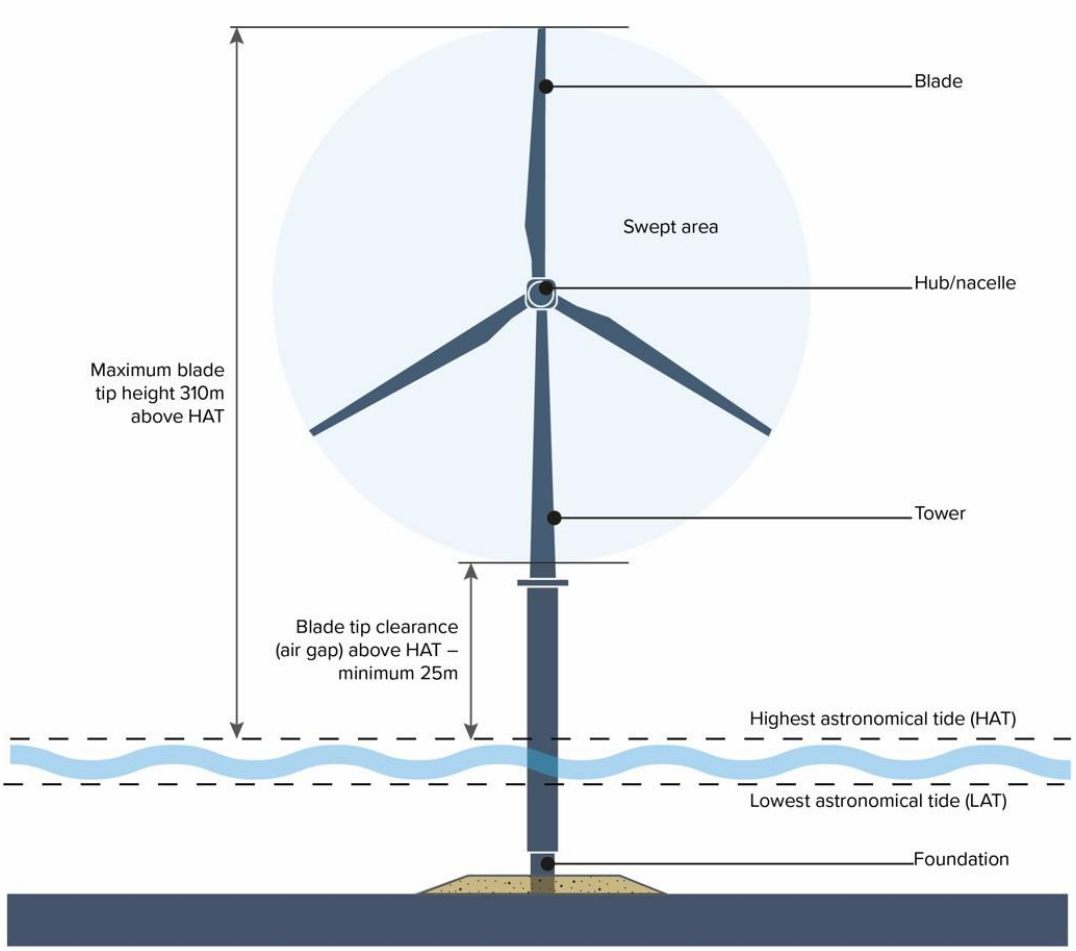

Plate 2.2 Schematic of a WTG

2.2.3 WTG Layout

54. WTGs would be set out in a regular pattern, such that they are aligned in two straight intersecting rows. The final layout will be developed post-consent and would be informed by the results of pre-construction surveys, the suitability of the ground conditions, water depths, procurement, the presence of obstacles and the final WTG design. The layout would also be determined through consultation with relevant stakeholders and application of the requirements of MGN654. It is noted that there may be locations within the regular grid of WTGs left unoccupied to account, for example, for less favourable ground conditions or exclusion distances from existing infrastructure.

55. The Applicant is proposing a maximum rotor diameter of 280m. The minimum distance between WTGs in a row of WTGs is 1,060m and the minimum distance between rows of WTGs is 1,410m. These minimum distances will give vessels sufficient room to manoeuvre per the advice shared in MGN654.

56. When there are multiple WTGs, the overall alignment is preferred to have a sense of regularity, as per the advice in MGN654. The guidance indicates a preference for multiple lines of orientation. Single or zero lines of orientation will be unacceptable to the MCA. The Applicant has committed to two lines of

orientation for the windfarm layout (as described in **Chapter 5 Project Description** (Document Reference 5.1.5) and the **Design Statement** (Document Reference 4.3).

2.2.4 Inter-array cables

57. Inter-array cables will connect WTGs in strings, subsequently connecting to the OSP(s). The array cables will be between 66kV and 132kV AC. The total maximum inter-array cable length is 70km. Where possible, inter-array cables would be buried, with depth of burial expected to be between 0.5 and 3m and a target burial depth of 1.5m. The final burial depth will be confirmed by the results of the Cable Burial Risk Assessment (CBRA). The CBRA is secured by the DML in the **Draft DCO** (Document Reference 3.1) and would be undertaken post-consent.

58. Where cable burial is not possible, for example due to unfavourable ground conditions or at entry points to WTG/OSP foundations, typical cable protection measures will be undertaken. This may include the use of rock placement or gravel bags, concrete mattresses or bagged solutions, the specifics of which would be explored and determined post-consent. Cable crossings will also be protected by deploying cable protection measures, as described above. Further details are in the **Outline Scour Protection and Cable Protection Plan** (Document Reference 6.8).

2.2.5 Offshore Substation Platform(s)

59. The Project may have up to two OSPs. **Plate 2.3** shows a schematic of a typical OSP. The inter-array cables will collect the electrical power from the WTGs and provide this generated electricity to the OSP(s). The OSP(s) would then increase the voltage of the generated electricity using transformer(s), to allow onward transmission of electricity from the OSPs to shore via the export cables (noting that export cables are part of the Transmission Assets). The OSP(s) would also provide welfare facilities for personnel to facilitate operation and maintenance activities.

60. The OSP(s) include layers of modular decks, above a topside platform, supported by a substructure and foundation and may also include a helideck, if required. The modular decks will host operational and maintenance areas and facilities, as well as areas dedicated to the termination of the cables.

61. The OSP(s) will have a maximum footprint of 50m length, by 50m width, and a maximum height of 50m above HAT, excluding any required helideck and lightning protection.

62. The maximum footprint of OSPs, including scour protection, is 14,176 m^2, which is equivalent to approximately 0.02% of the windfarm site.

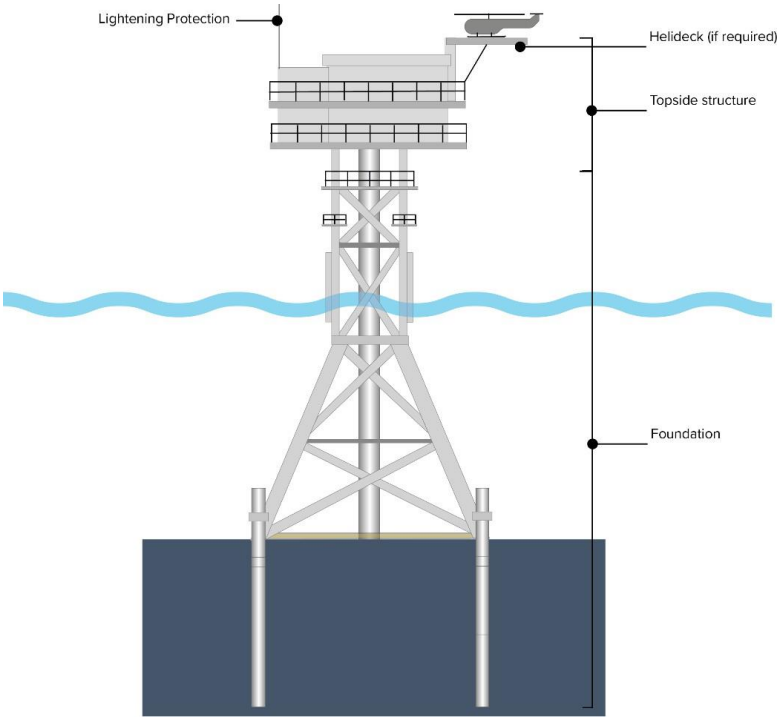

Plate 2.3 Schematic of a typical OSP

2.2.6 Platform link cables

63. Platform link cables will be necessary if the final design demonstrates that two OSPs are required. However, if only one OSP is to be constructed, then platform link cables would not be required. Should the Project require two OSPs, then platform link cables are anticipated to be required to connect each of the OSPs, to enable transfer of generated power from one OSP to the other, and to ensure that electricity transmission can continue in the event of one cable failing.

64. Like the inter-array cables, cables would be buried where possible, with depth of burial expected to be between 0.5m and 3m and a target burial depth of 1.5m. The final burial depth of the platform link cables would be confirmed by the results of the CBRA. The maximum length of platform link cables is 10km and the cables are expected to operate at up to 275kV AC.

2.2.7 Foundations

65. The decision on the types of foundation and substructure to support the WTGs and OSP(s) would be made post-consent. Foundation types would be selected following detailed design, based on suitability of the ground conditions, water depths and WTG/OSP models or design. There may be only one type used, or a combination of foundation types may be used across the

windfarm site. The following foundations, as shown in **Plate 2.4**, are currently being considered for use:

- Gravity Base Structure (GBS)
- Multi-legged pin-piled jacket (three-legged or four-legged jackets)
- Monopile
- Multi-legged suction bucket jacket (three-legged jackets)

66. The foundation steelwork will be coloured RAL1023 (yellow) from HAT up to a minimum of 15m. The key parameters for each foundation type are in **Section 5.5.3** of **Chapter 5 Project Description**.

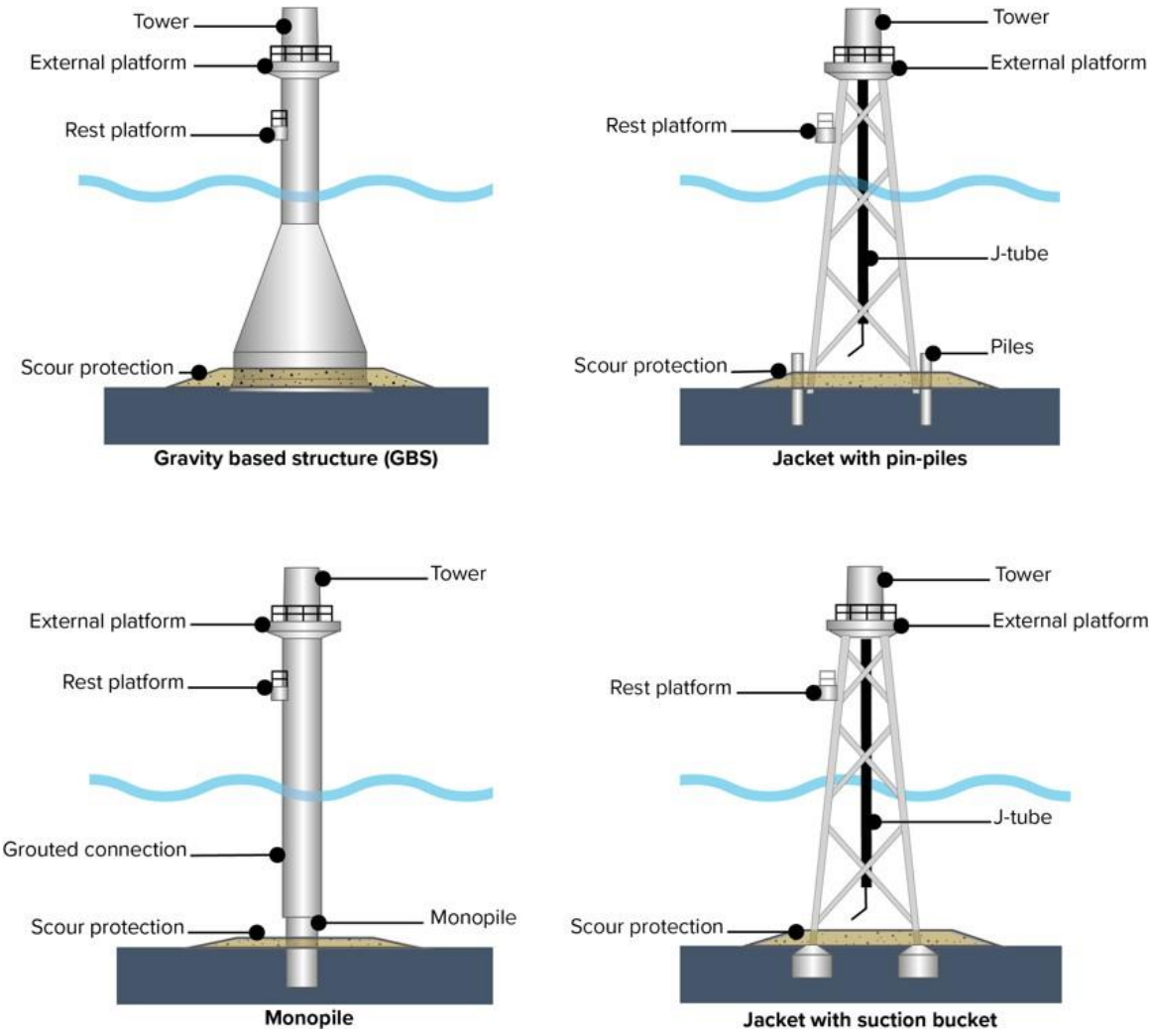

Plate 2.4 WTG/OSP(s) foundation options

67. Foundations may require scour protection to avoid sediment being eroded away from the base of the foundations as a result of the flow of water. Scour protection requirements are built into the design assumptions for each foundation type in consideration. Scour protection involves the installation of a layer of material around the base of a foundation to prevent sediment

erosion. Materials include rock, concrete and geotextile fabric. The final scour protection material required will depend on the foundation design and would be decided post-consent.

2.3 Pre-construction

68. Approvals from competent authorities for pre-construction plans and documents are required in the DML of the **draft DCO** (Document Reference 3.1)**.** A non-exhaustive list of required plans and documents are:

- A design plan
- A construction programme
- A monitoring plan, which accords with the **In Principle Monitoring Plan Offshore** (IPMP) (Document Reference 6.4)
- An Offshore Construction Method Statement which accords with the construction methods assessed in the ES
- An Offshore Project Environmental Management Plan (PEMP), which accords with the **Outline Project Environmental Management Plan** (Document Reference 6.2)
- An Offshore Archaeological Written Scheme of Investigation (WSI), which must accord with the **Outline Offshore Written Scheme of Investigation** (Document Reference 6.10)
- An Offshore Operation and Maintenance Plan (OOMP), which must accord with the **Outline Offshore Operation and Maintenance Plan** (Document Reference 6.6)
- A Marine Mammal Mitigation Protocol (MMMP), in accordance with the **Draft Marine Mammal Mitigation Protocol** (Document Reference 6.5) if pile foundations are proposed
- A Fisheries Liaison and Co-Existence Plan, in accordance with the **Outline Fisheries Liaison and Co-Existence Plan** (Document Reference 6.3)

69. Where a port in England or Wales is to be used for the transport over land of WTGs, offshore substation platforms ~~and/~~ or foundations in connection with the construction, operation or maintenance of the authorised development ~~major components~~, a Port Access and Transport Plan (PATP) is secured in the **draft DCO** (Document Reference 3.1), which accords with the **Outline Port Access and Transport Plan** (Document Reference 6.7). This would not apply if the relevant highway authority confirms, after consultation with the relevant planning authority, that no PATP is required for that part of the authorised development.

70. Prior to commencement of construction, the following activities are expected to occur (subject to having the appropriate consents and licences in place):

- Seabed preparation – including debris removal and seabed levelling

- Further geophysical surveys
- Detailed geotechnical surveys
- Detailed UXO identification (not clearance) survey
- Archaeological investigations
- Installing welfare and storage facilities at a designated harbour

2.4 Construction

71. The construction programme is planned for an estimated 2.5 years. The maximum seabed preparation footprint for all WTGs and OSPs (including anchoring) would be 347,615m^2 (0.35km^2) and the maximum footprint of disturbance for cable installation (including platform link cabling if required) would be 2,000,000m^2 (2km^2), a total area of approximately 2.35km^2.

72. Throughout the construction period, the Civil Aviation Authority (CAA), Defence Infrastructure Organisation (DIO) and the MMO will be notified of the installation of aviation safety lights. TH will be notified of the progress of the works and Notices to Mariners (NtMs) will be published periodically.

73. A construction monitoring plan will be prepared in accordance with the IPMP, as required by the DML in the **Draft DCO** (Document Reference 3.1). The plan must include details of vessel traffic monitoring, details of construction monitoring and piling noise monitoring, if a piled foundation type is used.

74. Similarly, an offshore construction method statement, which accords with the construction methodologies assessed in the ES, will be prepared, as required, by the DML.

75. Vessels would travel from a UK port, which shall be selected post-consent. Up to 800 helicopter return trips are expected during the construction period to facilitate crew changes of construction vessels. It is anticipated that helicopters would travel from Blackpool or Liverpool, however this is indicative at this stage and subject to change.

76. Offshore construction and installation operations will typically be performed on a 24-hour basis, depending on suitable weather conditions. There will be a minimum 500m radius of safety zones around installation vessels, foundation structures, WTGs and OSP(s). A 50m radius safety zone would also be established where major construction work has finished, but some work is still ongoing (i.e., commissioning). Further information is in the **Safety Zone Statement** (Document Reference 4.5). Safety Zones are secured in the DML in the **Draft DCO** (Document Reference 3.1).

2.4.1 Foundations

77. One or more types of foundation design will be selected post-consent. The foundations will be fabricated onshore, marshalled from a designated port/harbour, and lifted and secured into place using specialist installation vessels.

78. Piling operations would be required if a monopile or multi-legged jacket pin pile foundation is selected. Regardless of the chosen foundation type, there would be only one foundation installation at any one time within the windfarm

site, including only one piling activity occurring at any one time (should piling be required). Sequentially (installation one after the other), there may be up to three monopiles or up to four pin piles installed in a 24-hour period.

79. If any drilling operations are required to properly and safely install any foundation, the drill arisings (spoil) would be deposited adjacent to the foundation location. The spoil would be expected to settle onto the seabed near each foundation.

80. Scour protection would be installed as soon as practicable following foundation installation. The scour protection materials would be placed in one or multiple layers, as subsea geomorphological conditions dictate.

2.4.2 WTGs

81. Once the foundations and scour protection are completed, installation vessels would transport the components of one or more WTGs from the marshalling port to the windfarm site. In the water depths found at the windfarm site, it is expected that the installation vessel would be a jack-up vessel, typically with four or six legs, with each leg equipped with spudcans, which locate the legs onto the seabed.

82. A high-capacity crane mounted to the WTG installation vessel would be used to lift the WTG components in sequence (tower sections, nacelle, blades) onto the already installed foundation substructure. This process is repeated until all WTGs are installed. The duration of each WTG installation is anticipated to be typically three to four days.

2.4.3 OSP(s)

83. The substation topsides would be transported fully assembled, including all of the electrical components, from the onshore fabrication facility to the windfarm site using a transportation barge and installed onto the OSP foundations using a crane vessel. Once installed, all the cables would be pulled in and connected.

2.4.4 Inter-array and platform link cables

84. It is assumed that a cable lay vessel would use dynamic positioning to install the inter-array and platform link cables. Cables would, where possible, be buried for protection purposes, at depths of up to 3m, with a target depth of 1.5m. Cable protection measures would be used where burial is not possible.

85. Techniques for burying cables may include ploughing and trenching (including jetting and mechanical cutting). The final burial depth would be confirmed by the results of the CBRA, which would also inform the techniques for installing cables.

2.5 Completion

86. Before the Project is ready to generate and export electricity, the requisite consents and licences for the Project, and the Transmission Assets, must be obtained.

87. In addition, the following completion reports will need to be submitted to the MMO:

- A post construction monitoring plan, in accordance with the IPMP, as required by the DML in the **Draft DCO**
- A report disclosing the final location and volume of cable and scour protection, as stipulated by the DML in the **Draft DCO**
- A close-out report confirming the final number, parameters and co-ordinates of the installed WTGs and OSPs, the as-built plans and the co-ordinates of the cables, as stipulated by the DML in the **Draft DCO**

2.6 Operation and maintenance

88. The Project would generate electricity for up to 35 years. During the operational life of the Project, all offshore infrastructure would be monitored and maintained to maximise efficiency. Maintenance activities, both scheduled and unscheduled, or emergency works would be undertaken throughout the life of the Project.

89. Typical operation and maintenance activities include (but are not limited to):

- Major wind turbine component or OSP(s) replacement
- Painting and applying other coatings to WTG, foundation structures (including transition pieces) or OSP(s)
- Bird waste and marine growth removal
- Cable remedial burial
- Cable repairs and replacement
- Access ladder and boat landing replacement
- WTG and OSP(s) platform and/or foundation anode replacement
- J-tube repair/replacement

90. It is possible that inter-array and platform link cables could become exposed from their initial buried condition due to the natural movement of the seabed over the lifetime of the Project and may require remedial burial activities. Design and construction methods would seek to minimise such occurrences through appropriate burial depths. If this occurs reburial can be achieved via a number of techniques such as jetting, ploughing, mechanical cutting and dredging. It is additionally possible that during the operational lifetime of the cables, they could become damaged and non-operational. This could potentially require fault location, de-burial, retrieval, repair, placement on the

seabed and reburial. An average of 200m of cable may need to be replaced annually, as a worst-case scenario, and an average of 100m of cable may need remedial burial annually. This figure represents an average length per year, however, in reality, cable repair/replacement is not anticipated every year and would more likely involve less frequent, unplanned repair/replacement of potentially longer lengths.

91. It is assumed that up to 10% of the total scour and cable protection material installed during construction would be required to be replaced or replenished during the operation and maintenance phase. It is assumed that all replacement scour and cable protection material would replace/replenish material where it has been dislodged/moved or scoured, hence re-establishing design condition.

92. A maximum of 384 return vessel trips are expected annually during a standard year in the operation and maintenance phase, with up to three vessels within the windfarm site at any one time. During a heavy maintenance year (expected to be every fifth year) a maximum of 832 return vessel trips may be required, with up to ten vessels on site at any one time.

2.7 Decommissioning

93. At the end of the operational lifetime of the Project, decommissioning activities would be undertaken. Details of the potential decommissioning activities are not known at this time and would be subject to separate consent. Decommissioning activities would typically be the reverse of the construction sequence, and they would comply with the latest guidance and technology at that time.

94. A Decommissioning Programme would be prepared during the detailed design and development stage of the Project, prior to construction. The Decommissioning Programme would be refined during the Project's lifetime and finalised as decommissioning approaches.

95. The Project does not currently include any provision for repowering, which if sought in the future would be subject to a separate consent at that time.

3 Legal and Policy Context

96. This chapter outlines the relevant legal and policy context for the Project. The Applicant's position on legislative and policy context is also found in **Chapter 3 Policy and Legislation** of the ES (Document Reference 5.1.3).

97. The Project's compliance with the National Policy Statement (NPS) is demonstrated in the **National Policy Statements Accordance Report** (Document Reference 4.14) and compliance with Marine Plan policies is in **Marine Plan Policy Review** (Document Reference 4.7)

3.1 Legislation

3.1.1 The Planning Act 2008 as amended

98. The Planning Act 2008 (PA2008) is the primary legislative framework for submitting, examining and determining applications for defined categories of NSIPs.

99. NSIPs are usually large-scale developments, such as new ports, airports, major road and rail schemes or power generating stations. The PA2008 sets out thresholds above which certain types of infrastructure development are considered Nationally Significant and, therefore, requires a DCO.

100. Under Section 14(1)(a) and Section15(3) of the PA2008, an offshore generating station is an NSIP if it has a capacity of more than 100MW.

101. Section 15(4)(b) of the PA2008 provides that an '*offshore'* generating station is a generating station that is in the Renewable Energy Zone (REZ), defined within s84(4) of the Energy Act 2004 and s41(3) of the Marine and Coastal Access Act (MCAA) 2009, as being the Exclusive Economic Zone (EEZ) falling within 12nm and 200nm from the shore.

102. The Project is an offshore generating station located within the REZ and its capacity will be more than 100MW. Accordingly, it falls within Section 15(3) of the PA2008.

103. As the Project is an NSIP, a DCO under Section 31 of the PA2008 must be obtained from the SoS to authorise it. An Application for a DCO must be made to the SoS, care of PINS, under Section 37 of the PA2008.

104. Under Section 104(2) of PA2008, if a NPS has effect in relation to the development applied for, then the SoS must have regard to:

- Any NPS which has effect in relation to development of the description to which the application relates (Section 104(2)(a)) (see **Section 3.3**)
- Any relevant Marine Policy Documents (MPD), determined in accordance with s59 of the MCAA 2009 (Section 104(2)(aa)) (see **Section 3.4**)

- Any Local Impact Report (LIR) submitted to the SoS before the specified deadline (Section 104(2)(b))
- Any matters prescribed in relation to development of the description to which the application relates (Section 104(2)(c))
- Any other matters which the SoS thinks are both important and relevant to the decision (Section 104(2)(d))

105. Section 104 of the PA2008 makes clear that such projects must be decided in accordance with any relevant NPS, unless certain specified exceptions apply:

"104. Decisions in cases where national policy statement has effect ….

The [Secretary of State] must decide the application in accordance with any relevant national policy statement, except to the extent that one or more of subsections (4) to (8) applies. …

(4) This subsection applies if the [Secretary of State] is satisfied that deciding the application in accordance with any relevant national policy statement would lead to the United Kingdom being in breach of any of its international obligations.

(5) This subsection applies if the [Secretary of State is] satisfied that deciding the application in accordance with any relevant national policy statement would lead to the [Secretary of State being in breach of any duty imposed on the Secretary of State] by or under any enactment.

(6) This subsection applies if the [Secretary of State] is satisfied that deciding the application in accordance with any relevant national policy statement would be unlawful by virtue of any enactment.

(7) This subsection applies if the [Secretary of State] is satisfied that the adverse impact of the proposed development would outweigh its benefits.

(8) This subsection applies if the [Secretary of State] is satisfied that any condition prescribed for deciding an application otherwise than in accordance with a national policy statement is met.

For the avoidance of doubt, the fact that any relevant national policy statement identifies a location as suitable (or potentially suitable) for a particular description of development does not prevent one or more of subsections (4) to (8) from applying.".

106. Therefore, subject to the exceptions in Section 104 above, and as stated in paragraph 4.1.3 of NPS EN-1, the SoS "*should start with **a presumption in favour of granting consent** to applications for energy NSIPs. That presumption applies unless any more specific and relevant policies set out in the relevant NPSs clearly indicate that consent should be refused*" (emphasis added).

107. In short, the presumption is in favour of applications that accord with any relevant NPSs, and the key test is to assess, on the balance of probabilities, whether the application is in accordance with the relevant NPSs and should, therefore, be consented, unless certain specified exceptions (set out above) apply.

3.1.2 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

108. The Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations 2017 (the EIA Regulations) transposed the European Union (EU) Directive 85/337/EEC (amended in 2011/92/EU and 2014/52/EU) on EIA into UK law. The EIA process assesses and examines the effects of certain public and private projects and their potentially significant impacts on the physical, biological and human environment. It enables the identification of mitigation and management measures to ensure that the development is sustainable and that there are opportunities for beneficial impacts. It also affords the local community and statutory bodies the opportunity to participate in the consultation process.

109. Whilst the UK has now left the EU and EU Directives no longer have legal effect in the UK, the EU Directive formed the basis for the EIA Regulations, which are part of domestic law. The EIA Regulations are relevant to the Application, as set out below.

110. This Project falls under Schedule 2(3)(i) of the EIA Regulations, *"installations for harnessing of wind power for energy production (wind farm)*". The location, scale and nature of the Project may have the potential to give rise to significant effects on the environment and therefore meets the definition of an EIA development. The DCO Application must, therefore, be accompanied by an ES prepared in accordance with the EIA Regulations.

111. Further information on the EIA process is available in **Chapter 3 Policy and Legislation** (Document Reference 5.1.3) and **Chapter 6 EIA Methodology** (Document Reference 5.1.6).

3.1.3 The Infrastructure Planning (Decisions) Regulations 2010

112. The Infrastructure Planning (Decision) Regulations 2010 place duties on, and prescribe a list of matters to which regard must be had by, the SoS when deciding on applications for NSIPs. These matters are:

- Regulation 3 – Listed buildings, conservation areas and scheduled monuments. The decision maker must have regard to the desirability of preserving the listed building or its setting/conservation area/scheduled ancient monument (Regulation 3), this legal test, therefore, differs from

the "*special regard*" test contained in the Planning (Listed Buildings and Conservation Areas) Act 1991 (policy considerations in relation to listed buildings are considered further in the relevant NPS)

- Regulation 6 – Hazardous substances
- Regulation 7 – Biological diversity – must have regard to the United Nations Environmental Programme Convention on Biological Diversity of 1992

3.1.4 The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations)

113. The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) transposed the land aspects of the Habitats Directive (92/43/EEC) and certain elements of the Birds Directive (2009/147/EC) into domestic law. This law covers onshore and offshore environments out to 12nm from the coast. In relation to protected sites the Regulations have three primary objectives: (i) creating a National Site Network (NSN) comprising protected sites (European Sites or European Marine Sites);, (ii) places a duty on Competent Authorities (CA) to manage the site network; and (iii) for the CA to achieve network objectives.

114. The Regulations established a process, known as the Habitats Regulations Assessment (HRA), through which Appropriate Assessment (AA) of relevant projects may be necessary, if there is a Likely Significant Effect (LSE) on a European site for the conservation of nature by that project.

115. Under the Habitats Regulations, decisions on plans or projects are taken by the SoS as the CA. Under the Regulations, a project may be consented for reasons of overriding public interest (known as 'Imperative Reasons of Overriding Public Interest' (IROPI)), notwithstanding a negative AA of its LSE on a European Site. Decisions made under the Habitats Regulations are taken separately from consideration of whether Development Consent should be granted, as set out in the PA2008.

3.1.5 The Conservation of Offshore Marine Habitats and Species Regulations 2017 (the Offshore Habitats Regulations)

116. The Conservation of Offshore Marine Habitats and Species Regulations 2017 (the Offshore Habitats Regulations) apply to the UK's offshore marine area, which covers waters beyond 12nm, within British Fishery Limits and the seabed within the UK Continental Shelf Designated Area.

117. The Offshore Habitats Regulations are relevant to the Project and, similar to the Conservation of Habitats and Species Regulations, require an AA to be carried out in respect of a plan or project which, either alone or in combination with other plans or projects, is likely to have a significant effect on a European

site and is not directly connected with, or necessary for, the management of the site. If an AA is required, the SoS must consider whether the plan or project will adversely affect the integrity of the site.

118. Decisions on plans or projects are taken by the SoS, as the CA, who must consider whether the plan or project will adversely affect the integrity of a NSN site. Under the Offshore Habitats Regulations, a project may be consented for IROPI, notwithstanding a negative AA of its LSE on a NSN Site. Decisions made under the Offshore Habitats Regulations are taken separately from consideration of whether Development Consent should be granted, as set out in the PA2008.

119. Further information on the HRA process is within **Chapter 2** of the **Report to Inform Appropriate Assessment (RIAA)** (Document Reference 4.9) and within the **Habitats Regulations Assessment Without Prejudice Derogation Case** (Document Reference 4.11).

120. Any decision on consent under the Offshore Habitats Regulations will inform and is likely to be considered important and relevant to, the decision on Development Consent for the Project under the PA2008.

121. It is also an offence to capture, disturb, injure or kill a European Protected Species (EPS) under the Regulations. Natural England (NE) issues Wildlife Licences to qualified persons to carry out activities up to 12nm. The Regulations also apply the HRA duties of competent authorities to functions discharged under the Marine and Coastal Access Act 2009 and Regulation 56 empowers the MMO to issue Wildlife Licences relating to the marine area beyond 12nm.

122. It is recognised that the UK Government is considering reforming the Habitats Regulations to streamline the nature recovery targets in the Environment Act 2021. The Habitats Regulations remain in force at the time of submitting the DCO Application for the Project'.

3.1.6 Marine and Coastal Access Act 2009

123. The MCAA established the spatial marine planning system for improving and protecting the marine and coastal environment (see **Section 3.4**).

124. This Act empowered the MMO with the authority to deliver sustainable marine management, monitoring and enforcing terms of DMLs. The MCAA inserted a new section to the PA2008 (Section 149A), enabling the Applicant to apply for a DML as part of the DCO process.

125. The Act also enabled the designation of Marine Conservation Zones (MCZs) and EEZ for the UK. MCZs are intended to conserve a marine ecosystem without emphasising any particular species or habitat.

126. Section 125 of the MCAA empowers the MMO to further the conservation objectives of MCZs. Under Section 126 of the Act, the MMO introduced a Marine Conservation Zone Assessment (MCZA) process integrated with the Marine Licensing decision-making procedures. Further background information is provided within the **Marine Conservation Zone Assessment** report (Document Reference 4.13).

3.1.7 The Climate Change Act 2008 and The Climate Change Act 2008 (2050 Target Amendment) Order 2019

127. The basis of the Climate Change Act 2008 (CCA2008) lay in international agreements to which the UK became a signatory. Adopted on 11th December 1997, and having entered into force on 16th February 2005, The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change (UNFCCC). Signatory countries committed to internationally binding emissions reduction targets.

128. The detailed rules for implementing the Protocol were adopted at the seventh Conference of the Parties (COP 7) in Marrakesh, Morocco, in 2001, and are referred to as the "*Marrakesh Accords*". Its first commitment period started in 2008 and ended in 2012. In Doha, Qatar, on 8 December 2012, the "*Doha Amendment to the Kyoto Protocol*" was adopted.

129. The Climate Change Act 2008 made it the duty of the SoS to ensure that the net UK carbon account for all six Kyoto greenhouse gases for the year 2050 is at least 80% lower than the 1990 baseline. The Act aimed to enable the UK to become a low-carbon economy and gave Ministers powers to introduce the measures necessary to achieve a range of greenhouse gas reduction targets.

130. The Climate Change Act 2008 (2050 Target Amendment) Order 2019 strengthened the target for reducing GHG emissions to a 100% reduction by 2050, compared to the 1990 baseline.

3.1.8 The National Parks and Access to the Countryside Act 1949 and The Countryside and Rights of Way Act 2000

131. The National Parks (NPs) and Access to the Countryside Act 1949 provided the framework for establishing NPs and Areas of Outstanding Natural Beauty (AONBs). It also established authority to declare National Nature Reserves (NNRs), to notify *"areas of special scientific interest"* and, for local authorities, to establish Local Nature Reserves (LNRs).

132. In relation to NPs it places a duty on the SoS and other relevant authorities as follows (section 11A):

> *"In exercising or performing any functions in relation to, or so as to affect, land in any National Park in England, a relevant authority other than a*

devolved Welsh authority must seek to further the purposes specified in section 5(1) and if it appears that there is a conflict between those purposes, must attach greater weight to the purpose of conserving and enhancing the natural beauty, wildlife and cultural heritage of the area comprised in the National Park"

133. The Countryside and Rights of Way Act 2000 (CROW 2000) brought in new measures to further protect AONBs, with new duties for the boards set up to look after them. These included meeting the demands of recreation, without compromising the original reasons for the designation, and safeguarding rural industries and local communities.

134. The CROW 2000 also clarified the role of local authorities, including the preparation of management plans to set out how they will manage the AONB asset. There was also a new duty for all public bodies to have regard for the purposes of AONBs. CROW 2000 also brought in improved provisions for the protection and management of Sites of Special Scientific Interest (SSSIs) and conferred a duty on any relevant authority, including the SoS. As stated in Section 85:

"In exercising or performing any functions in relation to, or so as to affect, land in an Area of Outstanding Natural Beauty, a relevant authority shall have regard to the purpose of conserving and enhancing the natural beauty of the Area of Outstanding Natural Beauty"

3.1.9 The Wildlife and Countryside Act 1981 (as amended) and the Natural Environment and Rural Communities Act 2006

135. The Wildlife and Countryside Act 1981 (WCA 1981) protects animals, plants and certain habitats and geological features in the UK. The WCA 1981 provides for the notification and confirmation of SSSIs, with the objective of achieving '*favourable condition'* status for all SSSIs. SSSI designations aim to protect wildlife, geology or landform which is considered to be of special scientific interest. Favourable condition means that the SSSI's habitats and features are in a healthy state and are being conserved by appropriate management.

136. SSSIs apply to terrestrial and intertidal environments only and the latter extend into the marine environment. However, offshore developments can sometimes have effects on SSSIs through potential impact pathways. Activities or operations within the boundary of SSSIs also require NE's consent.

137. The Natural Environment and Rural Communities Act made provision for bodies concerned with the natural environment and rural communities, in connection with wildlife sites, SSSIs, NPs and the Norfolk Broads. It includes a duty that every public body must, in exercising its functions, have regard so far as is consistent with the proper exercising of those functions, to the

purpose of biodiversity. In complying with this duty, Ministers of the Crown, Government departments and the Welsh Assembly Government must have regard to the United Nations Environment Programme Convention on Biological Diversity of 1992.

3.1.10 Marine Strategy Regulations 2010

138. The Marine Strategy Regulations transposed the European Marine Strategy Framework Directive (MSFD) (Directive 2008/56/EC) into UK law. This legislation required the production of a "Marine Strategy" for all UK waters.

139. The objectives of the UK Marine Strategy reflect the UK's vision for *"clean, healthy, safe, productive and biologically diverse oceans and seas"*, reflecting the primary aim of achieving *"good environmental status"* by 2020 (HM Government 2012). The strategy was updated in 2019 (HM Government 2019).

3.1.11 Air Quality Standards Regulations 2010

140. The Air Quality Standards Regulations 2010, which transposed the European Council Directive 2008/50/EC on ambient air quality, require the SoS to ensure the legal limits of pollutants are not exceeded. These pollutants include sulphur dioxide (SO_2), nitrogen dioxide (NO_2), oxides of nitrogen (NOx), particulate matter (PM10 and PM2.5), lead, benzene, carbon monoxide and ozone.

3.1.12 The Use of Energy from Renewable Sources Regulations 2011

141. The UK Government transposed the Renewable Energy Directive into UK law, primarily through 'The Promotion of The Use of Energy from Renewable Sources Regulations 2011', of which Regulation 3 states: "*It is the duty of the Secretary of State to ensure that the renewables share in 2020 is at least 15%",* in which renewables share is defined as *"the share of energy from renewable sources in the United Kingdom, as calculated in accordance with Article 5 of the Directive"*.

142. The Renewable Transport Fuel Obligations (Amendment) Order 2011 requires the SoS to ensure 10% of transport fuels are from renewables by 2020. Whilst the Directive is no longer a part of UK legislation, these regulations remain in force.

3.1.13 The UK Energy Act 2013

143. The Electricity Market Reform Policy and Energy Act 2013 introduced the Contract for Difference (CfD) auction framework. The CfD scheme replaced

the Renewables Obligation. A CfD is a private law contract between a low-carbon electricity generator and the Low Carbon Contracts Company (LCCC), a private company owned by DESNZ. The CfD scheme is the UK Government's main mechanism for supporting low-carbon electricity generation. National Grid Electricity System Operator (ESO) is responsible for running the CfD allocation process.

144. The CfD scheme incentivises investment in renewable energy. It provides developers of projects with high upfront costs and long lifetimes, with direct protection from volatile wholesale prices. The CfD scheme also protects consumers from paying increased support costs when electricity prices are high.

145. Under the CfD scheme, energy generators receive a fixed price per unit of electricity produced. If the wholesale prices of electricity are lower than the strike price, producers receive the difference as a top-up payment. When the wholesale prices of electricity are above the strike price, energy generators pay back the difference to the LCCC.

146. There have been substantial cost reductions as the offshore wind industry matures. In 2021, the cost of the Allocation Round 4 (AR4) was approximately 30% lower than the AR2 in 2017. The cost of the AR2 was 50% lower than the AR1 in 2015.

147. AR5, held between March 2023 and September 2023, received zero bids from offshore wind developers and in response, the auction price ceiling has increased from £44/MWh in AR5 to £73/MWh for AR6. The higher auction price is to offset against rising capital cost and supply chain price inflation. The next Allocation Round (AR6) will be held in summer 2024 and future ARs will be held annually. For further information on AR and CfD, see **Section 4.5.3**.

3.1.14 Environmental Permitting (England and Wales) Regulations 2016

148. The Environmental Permitting (England and Wales) Regulations 2016 (as amended) implemented the EU Directive 2008/1/EC concerning Integrated Pollution Prevention and Control. They defined activities that require the operator to obtain an Environmental Permit from the Environment Agency and transposed the requirements of the Directive into UK legislation. The activities include such activities as waste operations, mining, waste discharge, ground water and other operations.

3.1.15 The European Union (Withdrawal Agreement) Act 2020)

149. The UK formally withdrew from the EU on 31st January 2020 (Exit Day) and the transitional period ended on 31st December 2020. The UK is now no longer a member of the EU. However, the UK, through The European Union

(Withdrawal) Act 2018 (EUWA2018) and subordinate regulations, has converted EU law into UK law and preserves laws made in the UK which implement EU obligations. The SoS will be aware that EU law, as defined and where transposed into UK law in the EUWA2018, continues to apply.

3.1.16 The Marine Environment (Amendment) (EU Exit) Regulations 2018

150. These Regulations ensure that UK and EU legislation relating to the marine environment, in particular maritime strategy, continue to be operable after the UK left the EU, including, for example, the Marine Strategy Regulations (*ibid*).

3.1.17 The Environment Act 2021

151. The Environment Act 2021 sets out the UK's new framework for environmental protection. Following the UK leaving the EU, some areas of law, such as those relating to environmental protection, are being reformed. The Act establishes new powers to set new binding targets, including for air quality, water, biodiversity and waste reduction. The key provisions of this Act are:

- Establishing the new Office of Environmental Protection (OEP), which is an independent watchdog that has been created to hold Government and public bodies accountable for their environmental obligations
- Mandating Biodiversity Net Gain (BNG) through the planning system from January 2024. BNG is now a mandatory obligation, as required in Schedule 7A of the Town and Country Planning Act 1990 (inserted by the Environment Act 2021), with the objective to deliver at least a 10% increase in relation to the pre-development biodiversity value of the development granted permission (this increase can be achieved through onsite biodiversity gains, registered offsite biodiversity gains or statutory biodiversity credits)

152. It is expected that the implementation of BNG will be mandatory for terrestrial NSIPs from November 2025. Currently, there is no proposed implementation of measures to secure Marine Net Gain (MNG). However, Schedule 15 of the Act empowers the SoS to introduce the MNG requirements for NSIPs.

3.1.18 The Levelling-Up and Regeneration Act 2023

153. On 26th October 2023, the Levelling-Up and Regeneration Bill (LURB) became an Act. This Act intends to reduce geographical inequalities in the UK, empower local leaders to regenerate their areas and speed up the planning process. The Act enables the SoS to make changes to the planning process and the NSIP regime.

154. Part 6 of the Act authorises an Appropriate Authority to specify the Environmental Outcomes Report (EOR), in a new approach to environmental assessment. EORs are intended to replace EU derived EIA processes with environmental objectives. At the time of writing this report, guidance for the new EORs has not yet been published. In addition, the Act provides for:

- Charging developers for expert input – Section 126 of the Act enables cost recovery for certain services provided in connection with DCO projects
- Fast track NSIPs consenting – Section 127 gives the SoS the power to shorten the deadline for examining DCO Applications, enabling the establishment of a fast-track consenting route for DCO Applications, where quality standards are met
- Faster post-consent changes – Section 128 empowers the SoS to set time limits for deciding Non-Material Change (NMC) DCO Applications

3.1.19 Development Consent Orders Made & Applied For

155. The SoS will wish to ensure any new DCO does not conflict with any made DCOs which are extant legislation. The Orders below have been made in relation to projects in the vicinity of the Project.

- Awel y Môr Offshore Wind Farm Order 2023 (SI 2023/1033)
- Burbo Bank Extension Offshore Wind Farm Order 2014 (SI 2014/0000)
- Walney Extension Offshore Wind Farm Order 2014 (Amended 2016) (SI 2016/810)

156. In addition, the SoS will wish to ensure the drafting of any new DCO is acceptable. The Applicant is therefore submitting a **Explanatory Memorandum** (Document Reference 3.2) which explains and sets out in detail where the **Draft DCO** (Document Reference 3.1) for the Project is consistent with the provisions of other made Orders whether in the vicinity of the Project or elsewhere. The **Explanatory Memorandum** (Document Reference 3.2) refers to a number of other made DCOs, including:

- The Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024 (SI 2024/564)
- The Net Zero Teesside Order (SI 2024/0000)
- Hornsea Four Offshore Wind Farm Order (SI 2023/0000)
- The East Anglia TWO Offshore Wind Farm Order 2022 (SI 2022/433)
- The East Anglia ONE North Offshore Wind Farm Order 2022 (SI 2022/432)
- Norfolk Boreas Offshore Wind Farm Order 2021 (SI 2021/1414)
- Hornsea Three Offshore Wind Farm Order 2020 (SI 2020/1656)
- Norfolk Vanguard Offshore Wind Farm Order 2020 (SI 2020/706)
- East Anglia Three Offshore Wind Farm Order 2017 (SI 2017/826)

- Dogger Bank Teesside A and Sofia Offshore Wind Farm Order 2015 (SI 2015/1592)
- The Dogger Bank Creyke Beck Offshore Wind Farm Order 2015 (SI 2015/318)
- Triton Knoll Offshore Wind Farm Order 2013 (SI 2016/880)

157. The Applicant had regard to recent draft DCOs submitted and accepted for Examination by other offshore wind projects in preparing the **Draft DCO**, although it acknowledges that these are not precedents or binding.

158. Given the proximity of this Project to Mona Offshore Wind Project and Morgan Offshore Wind Project Generation Assets, the Applicant had regard to their draft DCOs to ensure the drafting is as consistent as possible for the benefit of PINS and other stakeholders."

159. The Applicant had regard to the Mona Offshore Wind Project. An application was received by PINS on 22nd February 2024 and accepted for examination on 21st March 2024

160. The Applicant also had regard to the Morgan Offshore Wind Project Generation Assets. An application was received by PINS on 24th April 2024 and accepted for Examination on 17th May 2024.

161. The Morgan and Morecambe Offshore Wind Farms: Transmission Assets is still at the pre-application stage with a planned submission to PINS in 2024.

3.2 Policy and Guidance

162. Section 104(2) of the PA2008 sets out the following factors, to which the SoS must have regard in decision-making on DCO Applications:

- Relevant NPSs
- The appropriate Marine Policy Statement (MPS)
- Impacts identified by the Local Planning Authorities (LPAs) (which may form part of Local Impact Reports (LIRs))
- Relevant matters prescribed in relation to the development
- "*Other matters , which the Secretary of State thinks are both important and relevant to the Secretary of State's decision"*

163. These policies and matters have all been taken into account in the development of the Application for the Project.

164. How the Project accords with the NPSs, and is in conformity with other Plans and Policies, is set out below and within associated documents, including the **National Policy Statements Accordance Report** (Document Reference 4.14) and the **Marine Plan Policy Review** (Document Reference 4.7). This has also been set out in the relevant ES Chapters, where relevant.

3.3 National Policy Statements (NPSs)

165. The NPSs are a suite of documents setting out the UK Government's policy for delivering NSIPs. The former Department of Energy and Climate Change (DECC) first published a suite of energy NPSs on 19th July 2011.

166. Following publication of the Energy White Paper '*Powering our Net Zero Future'*, in December 2020 (HM Government 2020), the UK Government committed to reviewing and updating the suite of NPS designated in 2011.

167. A public consultation was therefore launched on new draft NPSs, on 6th September 2021, and ran until 29th November 2021. Parliamentary scrutiny is a required part of the process of designating NPSs and the House of Commons Business, Energy and Industrial Strategy Committee began an inquiry into the consultation draft NPSs in November 2021 and published its report on them on 25th February 2022.

168. Following a number of major policy drivers, including the conflict in Ukraine, the publication of the British Energy Security Strategy (BESS) (HM Government 2022), *"Powering Up Britain Energy Security Plan"* (HMG 2023a) and *"Powering Up Britain: Net Zero Growth Plan"* (HMG 2023b) both in March 2023, DESNZ published a further revised suite of draft energy NPSs for a second consultation period, which closed on 23rd June 2023.

169. In November 2023, DESNZ published a final, revised suite of draft energy NPSs, which were laid before Parliament for approval. These are the new, now current, energy NPSs, which have come into force prior to this Application for the Project being made.

170. On 17th January 2024, the November 2023 revised NPSs (EN-1 to EN-5) (DESNZ 2023g) formally came into force, of which two of them are relevant to the Project.

- The Overarching NPS for energy (EN-1)
- The NPS for Renewable Energy Infrastructure (EN-3), which relates to both onshore and offshore energy NSIPs

171. NPS EN-5 sets out Policies concerning electricity transmission distribution systems. It is, therefore, not relevant to the Project, as the Transmission Assets will be subject to a separate DCO Application. However, EN-5 is relevant to the Morgan and Morecambe Offshore Wind Farms: Transmission Assets project. Further details on the Transmission Assets project is provided in **Section 1.4** and **Section 2.1.3** of this document.

3.3.1 Overarching National Policy Statement for Energy EN-1

172. NPS EN-1 sets out the national Policy for new energy infrastructure. Part 2 outlines the Policy context for developing NSIPs. The Policy objectives are to reduce GHG emissions to Net Zero by 2050, decarbonise the power sector, have a secure energy supply and promote sustainable development.

173. Part 3 explains the urgent need for significant large-scale energy infrastructure, to meet the Government's energy objectives. **Chapter 4 Project Need** of this document elaborates on the need for the Project, in the context of the NPS.

174. Part 4 sets out the general policies for submitting and assessing applications relating to energy NSIPs. They include guidelines for determining Critical National Policy (CNP) infrastructure, Environmental and Biodiversity Net Gain, good design, climate change adaptation and resilience.

175. Part 5 covers generic impacts arising from all types of energy infrastructure, covering topics such as biodiversity, civil and military aviation, historic environment and water quality. A topic-based assessment of EN-1 Policy is set out in the **National Policy Statements Accordance Report** (Document Reference 4.14).

176. The main tenets in EN-1 are set out in the remainder of this section.

Presumption in favour of granting applications for energy NSIPs

177. Paragraph 4.1.3 states that the default position for the SoS is to grant consent to Energy NSIPs, unless there are specific and relevant NPS policies that indicate refusal.

Critical National Priority (CNP)

178. Section 4.2 of EN-1 introduces the concept of CNP. The UK Government recognises an urgent need for low-carbon energy generation, including specifically for offshore wind generation projects and, as such, nationally significant low-carbon infrastructure projects, including the proposed Project, are considered to be CNP. Specifically, paragraph 4.2.5 of NPS EN-1 states:

"Low carbon infrastructure for the purposes of this policy means:

- *for electricity generation, all onshore and offshore generation that does not involve fossil fuel combustion (that is, renewable generation, including anaerobic digestion and other plants that convert residual waste into energy, including combustion, provided they meet existing definitions of low carbon; and nuclear generation), as well as natural gas fired generation which is carbon capture ready"*

179. Meeting the CNP definition does not alter the definition of a NSIP; the CNP status affects how the SoS decides on:

- Non-HRA residual impacts in the planning balance
- Non- MCZ residual impacts in the planning balance
- HRA Derogations
- MCZ Assessments

180. Paragraph 4.2.17 of NPS EN-1 explains that the SoS will take "*as a starting point that CNP Infrastructure will meet the following non-exhaustive list of tests*", including that it will, for example, constitute very special circumstances justifying development in a Green Belt, that when it *"requires"* to be in an SSSI, that the SoS will consider it *"to clearly outweigh both the likely impact on features of the site that make it a SSSI, and any broader impacts on the national network of SSSIs", "where development in nationally designated landscapes requires exceptional circumstances to be demonstrated"* and that it will meet the test that *"where substantial harm to or loss of significance to heritage assets should be exceptional or wholly exceptional".*

181. For Derogations relating to HRA and MCZ Regulations, paragraph 4.2.21 states that: *"the Secretary of State will consider the particular circumstances of any plan or project, but starting from the position that energy security and decarbonising the power sector to combat climate change:*

- *requires a significant number of deliverable locations for CNP Infrastructure and for each location to maximise its capacity. This NPS imposes no limit on the number of CNP infrastructure projects that may be consented. Therefore, the fact that there are other potential plans or projects deliverable in different locations to meet the need for CNP Infrastructure is unlikely to be treated as an alternative solution. Further, the existence of another way of developing the proposed plan or project which results in a significantly lower generation capacity is unlikely to meet the objectives and therefore be treated as an alternative solution*
- *are capable of amounting to imperative reasons of overriding public interest (IROPI) for HRAs, and, for MCZ assessments, the benefit to the public is capable of outweighing the risk of environmental damage, for CNP Infrastructure"*

182. For HRA projects, where it has been shown there are no reasonable alternatives (or for MCZ projects, where an applicant has shown there are no other means of proceeding (or alternatives) which would create a substantially lower risk), and for which IROPI apply, compensatory measures must be secured.

183. The SoS should, therefore, seek compensation measures in the HRA process, or Measures of Equivalent Environmental Benefits (MEEB) in MCZs, to offset any adverse effects on site integrity.

Consenting Link

184. Paragraph 3.3.77 recognises that DCO Applications for offshore wind farms do not include the complete chain of consents. Associated infrastructure, such as connection to the grid, could be secured under separate consent, such as is demonstrated by the forthcoming separate Transmission Assets DCO Application.

3.3.2 National Policy Statement for Renewable Energy Infrastructure EN-3

185. EN-3 is concerned with impacts and other matters that are specific to offshore wind. A topic-based assessment of EN-3 Policy is set out in the **National Policy Statements Accordance Report** (Document Reference 4.14). Paragraph 2.1.1 of NPS EN-3 states that guidelines set out in this NPS are additional to those on generic impacts, as set out in EN-1, and do not replace them.

Rochdale Envelope

186. Section 2.6 of EN-3 calls for flexibility in the DCO Application process for offshore wind farms, when full details of the project specification may be unknown at the time of submission. The '*Rochdale Envelope'* method allows for the maximum adverse case scenario (i.e. worst-case) to be assessed in the ES and a DCO granted on this basis.

Offshore Wind Environmental Standards (OWES)

187. Paragraphs 2.8.90 to 2.8.92 explain that the Offshore Wind Environmental Standards (OWES) is an emerging tool aiming to achieve good design and to standardise the approach to avoiding, reducing, and mitigating the impacts of offshore wind farms and/or associated offshore transmission infrastructure.

188. Defra is preparing draft OWES Guidance and its details are not yet available to the Applicant.

Offshore Wind Environmental Improvement Package (OWEIP)

189. Paragraph 2.8.8 explains that OWEIP is a comprehensive review to accelerate the consenting process, whilst maintaining the same level of environmental protections for constructing and operating wind farms. At the time of preparing the Project's Application, details of OWEIP were not published for public consultation. OWEIP could include revising the HRA and MCZ Assessment process, implementing an industry-funded Marine Recovery Fund (MRF) and creating a strategic approach for environmental compensation and monitoring.

Offshore-Onshore Network Connection

190. Paragraph 2.8.25 of EN-3 calls for a more co-ordinated approach between spatially close offshore wind farms, wherever possible, to the onshore

networks. Both the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project have been scoped into the Pathways to 2030 workstream, under the OTNR, as set out in **Section 1.** of this document.

191. Under the OTNR, the National Grid ESO is responsible for conducting a HNDR, to assess options to improve the co-ordination of offshore wind generation connections and transmission networks and has undertaken a HNDR. In July 2022, the UK Government published the 'Pathway to 2030 Holistic Network Design' documents, which sets out the approach to connecting 50GW of offshore wind to the National Grid (NGESO, 2022). The OTNR aims to consider, simplify, and wherever possible, facilitate a collaborative approach to offshore wind projects connecting to the National Grid. The output of this process concluded that the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project should work collaboratively in connecting the wind farms to the National Grid at Penwortham in Lancashire. The Applicant was involved in this process and supports this decision.

192. In line with the Project '*Co-ordination*' objective (4) (see **Section 1.3**), the Applicant is collaborating with the Morgan Offshore Wind Project to apply for a separate joint DCO Application for the Transmission Assets which will enable export of electricity from both the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project to the National Grid connection point, at Penwortham. This is known as the Morgan and Morecambe Offshore Wind Farms: Transmission Assets, and will include shared offshore export cable corridors, their landfall arrangements, shared onshore export cable corridors to new project onshore substations, and onward connection to the National Grid connection point.

3.4 Marine Policy Documents

3.4.1 Marine Policy Statement (MPS), 2011

193. The MPS sets out UK-wide high level marine objectives. The MPS is the framework for preparing and formulating Marine Plans (MPs) and taking decisions affecting the marine environment. Any MP must conform to the MPS's objectives and set out how they will be implemented locally in specific locations.

194. The UK-wide high-level marine objectives are: achieving a sustainable marine economy, ensuring a strong, healthy, and just society, living within environmental limits, promoting good governance and using sound science responsibly.

3.4.2 North West Inshore and North West Offshore Marine Plans (MPs)

195. The North West Inshore and North West Offshore MPs were developed under s51 of the MCAA 2009 and the requirements of the MPS.

196. The North West Plan introduces a strategic approach to planning and informed decision-making. Paragraph 2 clarifies the document's purpose, *"It provides a clear, evidence-based approach to inform decision-making by marine users and regulators on where, when or how activities might take place within the north west inshore and north west offshore marine plan areas*."

197. The Project is approximately 30km west of the Lancashire Coast and is located entirely in the offshore area. The offshore area includes the area from 12nm extending out to the jurisdictional boundary with the Isle of Man, Scotland and Wales. The inshore area covered by the North West Inshore MP comprises around 4,900km^2 of sea between the Solway Firth border with Scotland and the River Dee border with Wales, and from as far as the tide flows at mean high water springs, out to 12nm seaward, where it forms the boundary with the North West Offshore MP area. The North West Offshore MP area extends out to the seaward limit of the EEZ and comprises a total of approximately 2,200km^2 of sea.

198. Paragraph 10 of the plan describes the North West MP areas as *"very busy, with a large variety of existing activities competing for limited space. […] As relatively small and very busy marine plan areas, space for new infrastructure is limited".* The area is important for energy production for offshore wind projects, along with discrete oil and gas reserves, as well as international subsea cables.

199. The North West MP's three main and supplementary objectives are derived from the UK-wide high-level marine objectives in the MPS. These objectives are underpinned by 58 policies and three of them are specific to the renewables sector:

- NW-REN-1: *"Proposals that enable the provision of renewable energy technologies and associated supply chains, will be supported"*
- NW-REN-2: *"Proposals for new activity within areas held under a lease or an agreement for lease for renewable energy generation should not be authorised, unless it is demonstrated that the proposed development or activity will not reduce the ability to construct, operate or decommission the existing or planned energy generation project"*
- NW-REN-3: *"Proposals for the installation of infrastructure to generate offshore renewable energy, inside areas of identified potential and subject to relevant assessments, will be supported"*

200. The Project's conformity with all relevant policies, as set out in the North West MP, is contained within the **Marine Plan Policy Review** (Document Reference 4.7)

3.5 Marine Guidance Note 654 Offshore Renewable Energy Installation (OREI) Safety Response

201. The MGN654 highlights issues that need to be considered when assessing the impact on navigational safety and emergency response (search and rescue, salvage and towing and counter pollution) caused by Offshore Renewable Energy Installation (OREI) developments. It applies to proposals in UK's internal waters, Territorial Sea and EEZ.

3.5.1 Advice Notes

202. PINS published a series of non-statutory Advice Notes informing applicants, consultees, the public and others about a range of processes in relation to the PA2008. The following Advice Notes were considered when preparing this DCO Application:

- Advice Note Three: EIA consultation and notification Republished August 2017 (version 7)
- Advice Note Six: Preparation and submission of Application documents May 2012 (version 11)
- Advice Note Six: Appendix One – preparing the Application index to accompany an NSIP Application May 2012
- Advice Note Seven: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping Republished June 2020 (version 7)
- Advice Note 8.3: Influencing how an Application is Examined: the Preliminary Meeting March 2024 (version 4)
- Advice Note 8.5: The Examination: hearings and site inspections March 2024 (Version 4)
- Advice Note 8.6: Virtual Examination Events March 2024 (version 1)
- Advice Note Nine: Rochdale Envelope Republished July 2018 (version 3)
- Advice Note Ten: Habitat Regulations Assessment relevant to Nationally Significant Infrastructure Projects Republished August 2022 (version 9)
- Advice Note Twelve: Transboundary Impacts and Process Republished December 2020 (version 6)
- Advice Note Thirteen: Preparation of a draft Development Consent Order and Explanatory Memorandum Republished February 2019 (version 3)

- Advice Note Fourteen: Compiling the Consultation Report Republished February 2021 (version 3)
- Advice Note Fifteen: Drafting Development Consent Orders Republished July 2018 (version 2)
- Advice Note Seventeen: Cumulative effects assessment Published August 2019 (version 2)

3.6 National Planning Policy Framework (NPPF)

203. The National Planning Policy Framework (NPPF) was first published on 27th March 2012 and most recently updated on 20th December 2023. This sets out the UK Government's Planning Policies for England and how these are expected to be applied when making Development Plans and deciding Planning Applications under the Town and Country Planning Act 1990 (as amended).

204. The NPPF has a series of core principles, including the delivery and promotion of sustainable development, protection and conservation of the natural, built and historic environment. All these principles are important and relevant to the Project.

205. Paragraph 152 of the NPPF supports renewable and low carbon energy, which would contribute to the transition to a low carbon future in a changing climate.

206. The NPPF intends to guide the planning process for making Development Plans and deciding Planning Applications. Although the NPPF does not contain policies for NSIPs, the NPPF is capable of being relevant to NSIPs. In particular, paragraph 5 of the NPPF, *"The Framework does not contain specific policies for nationally significant infrastructure projects. These are determined in accordance with the decision-making framework in the Planning Act 2008 (as amended) and relevant national policy statements for major infrastructure, as well as any other matters that are relevant (which may include the National Planning Policy Framework). National policy statements form part of the overall framework of national planning policy and may be a material consideration in preparing plans and making decisions on planning applications*."

3.7 Local Plans

207. Although the Project is entirely offshore, the Project could potentially impact onshore receptors through seascape, landscape and visual amenity or traffic impacts associated with port activities.

208. A number of LPAs are within the 50km Seascape, Landscape and Visual Impact Assessment (SLVIA) Study Area, as defined in **Chapter 18 Seascape,**

Landscape and Visual Impact Assessment (Document Reference 5.1.18). **Figure 18.3** of **Chapter 18 SLVIA Figures** (Document Reference 5.3.18) illustrates the extent of the SLVIA, with an overlay of LPAs.

3.8 Isle of Man

209. The Isle of Man is a self-governing British Crown Dependency, with a distinct constitutional position within the British Isles. The Isle of Man has an entirely separate legal system from that of the UK.

3.8.1 Conventions

210. The Isle of Man is a signatory of various international conventions, including the Espoo (see **Section 3.11.2**), OSPAR (see **Section 3.11.3**), Ramsar (see **Section 3.11.4**), Convention on Biological Diversity (CBD) (see **Section 3.11.5** Bonn and Bern Conventions.) International obligations of the UK are covered in **Section 3.11**.

3.8.2 Our Island Plan

211. The Our Island Plan aims to make the Isle of Man a secure, vibrant and sustainable place to live and work, which in turn will sustain and grow productive businesses and services.

3.8.3 Manx Marine Environmental Assessment (MMEA)

212. The Manx Marine Environmental Assessment (MMEA) is not a Policy document, but a statement of known information covering Manx Territorial Waters.

3.9 Other Policy Documents

213. A number of other Policy documents are useful to understand the background and the Examination of the Project. These documents are either published or emerging.

214. Published documents set out the aspirations for Net Zero and the ambition to have 50GW of offshore wind generated electricity by 2030. More recent and emerging documents relate to the action plans to accelerate the deployment of offshore wind, including speeding up the decision-making process in DCO Applications, reducing costs for promoters and making the electricity market more efficient.

3.10 Transmission Licence Exemption for Array Systems Connecting to Offshore Substations (November 2023)

215. DESNZ is seeking comments from offshore wind industry representatives on a proposed exemption from the requirement to hold a Transmission Licence for array systems connecting an offshore windfarm to an offshore substation. This consultation ended on 5th March 2024. At the time of writing, the consultation had closed, but no results had been published.

216. The proposed exemption, if implemented, would facilitate 132kV+ cables to enable larger turbines and wind farms, as well as more efficient use of the seabed, with reduced cable length for an array system.

3.10.1 Electricity Networks: Connection Action Plan: Speeding up Connections to the Electricity Network Across Great Britain (November 2023)

217. Jointly prepared by Ofgem and DESNZ, this Policy Paper sets out Action Plans to reduce the waiting time for generation projects to connect to the grid. It aims to remove speculative connection applications and stalled projects from the connection queue. This will ensure that the connection process does not delay viable projects. On average, the transmission connection dates should be available to customers in no more than six months.

3.10.2 Getting Great Britain Building Again: Speeding up Infrastructure Delivery (November 2023)

218. The Government recognises that delay, complexity, uncertainty and inflexibility for developers are driving up the cost of building infrastructure projects. In response, the Department for Levelling Up, Housing & Communities (DLUHC) proposes initiatives to shorten the decision-making process at PINS. Uncertainty is being addressed through the review of NPSs. The Government is also exploring options to minimise potentially inappropriate legal challenges.

3.10.3 Second National Infrastructure Assessment (NIA2) (October 2023)

219. Prepared by the National Infrastructure Commission (NIC) and published on 16th October 2023, the Second National Infrastructure Assessment (NIA2) sets out the type, location and timing of delivering infrastructure for the UK in the next 30 years. It identifies three challenges for this country's infrastructure: decarbonisation and achieving Net Zero, supporting economic growth across all regions and improving climate resilience and the environment.

3.10.4 Nationally Significant Infrastructure Projects Action Plan (February 2023)

220. Published in February 2023, this Action Plan sets out 18 initiatives to reform and speed up the NSIP process. This includes the digitalisation of documents and recruiting more Planning Inspectors to reduce the consenting process from 18 months to 12 months.

3.10.5 The Review of Electricity Market Arrangements (REMA) (July 2022)

221. On 18th July 2022, the UK Government launched a comprehensive review of the electricity pricing mechanism. The Review of Electricity Market Arrangements (REMA) seeks a range of opinions to tackle high energy costs, increase energy security and move to a cleaner energy system. Traditionally, gas prices influence wholesale electricity prices. However, the UK Government believes cheaper produced renewable sources should have a more substantial role in determining electricity prices.

3.10.6 Electricity Networks Strategic Framework (August 2022)

222. This document, a joint publication by the Government and Ofgem, builds on the BESS commitments and other goals to set a Strategic Framework for transforming the electricity network. The proposed actions include addressing network constraints, improving the affordability of connections, reducing network connection timescales and ensuring Net Zero's impact on consumers is as low as possible.

3.10.7 The Pathway to 2030 Holistic Network Design Review (July 2022)

223. The HNDR for Offshore Wind intends to accelerate the delivery of offshore wind and reduce the end-to-end timeline for delivering Strategic Network Infrastructure. The HNDR sets out a single, integrated design, which supports the large-scale delivery of electricity generated from offshore wind to onshore. The proposed Strategic Network Framework enables the connection of 23GW of offshore wind. The Applicant's position on the HNDR is **in Section 1.4**.

3.10.8 BEIS Offshore Transmission Network Review (OTNR) (July 2022)

224. Through the Offshore Transmission Network Review (OTNR), the UK Government seeks a co-ordinated offshore network to minimise impacts on the community and environment. The OTNR aims to reduce the cost of construction and accelerate the delivery of OWFs.

3.10.9 British Energy Security Strategy (BESS) (April 2022)

225. The British Energy Security Strategy (BESS) accelerates energy independence. This Strategy increases the UK Government's target offshore windfarm generation capacity from 40GW to 50GW by 2030 and the pace for deploying offshore wind by 25%.

226. The BESS proposes to decrease the consenting time from up to four years down to one year. It proposes new measures to streamline the consenting process:

- Implementing a new OWEIP, including an industry-funded MRF, facilitating strategic environmental compensation measures
- Reviewing the HRA and MCZA to facilitate the delivery of compensation measures
- Developing OWES to set a minimum common requirement for designing windfarms

3.10.10 BEIS Energy National Policy Statements Review on the Scope of Appraisal of Sustainability and Approach to Habitats Regulation Assessment (April 2021)

227. On 23rd April 2021, BEIS published a series of reports on the Scope of Appraisal of Sustainability and Approach to the HRA for consultation, in advance of the UK Government's planned review of NPSs for energy infrastructure.

3.10.11 Net Zero Strategy: Build Back Greener (October 2021)

228. Published on 19th October 2021, the Net Zero Strategy sets out Policies and Proposals for decarbonising all sectors of the UK economy, to meet the Net Zero target by 2050. By 2035, the UK will be powered entirely by clean electricity, subject to the security of supply.

3.10.12 Energy White Paper: Powering our Net Zero Future (December 2020)

229. Published in December 2020, the UK Government's Energy White Paper (HM Government 2020) sets out how the UK will reach targets for Net Zero emissions by 2050. The paper builds on the Ten Point Plan to set energy-related measures and, in regard to offshore wind, states: *"By 2030 we plan to quadruple our offshore wind capacity so as to generate more than all our homes use today, backing new innovations to make the most of this proven technology and investing to bring jobs and growth to our ports and coastal regions".*

3.10.13 The Ten-Point Plan for a Green Industrial Revolution (November 2020)

230. Published in November 2020, the Ten-Point Plan sets out the pathway to accelerate towards Net Zero. It included a Government aim to have 40GW of operational offshore wind in the UK by 2030, which has since been superseded by the BESS (HM Government 2022) ambition to achieve 50GW of UK offshore wind generation by 2030.

3.11 Emerging Policy Documents

3.11.1 The Strategic Spatial Energy Plan (SSEP)

231. The UK Government is developing the Strategic Spatial Energy Plan (SSEP), as per recommendations in the Electricity Network Commissioner's Report. The SSEP will set out a whole system approach to planning generation and network infrastructure. It will forecast the supply and demand of the electricity network and their likely whereabouts. The government has not committed to a date for the production of the SSEP.

3.11.2 Windfarm Mitigation for UK Air Defence (March 2023)

232. The UK Ministry of Defence (MOD), through the Defence and Security Accelerator (DASA), in partnership with DESNZ, has launched Stream 1 of Windfarm Mitigation for UK Air Defence: Phase 3, in March 2023. It seeks innovative technologies that have the potential to mitigate the effect of windfarms on UK Air Defence capabilities, to enable the long-term co-existence of offshore wind installations and Air Defence Radar.

3.12 International Obligations

233. A number of international conventions and treaties, to which the UK is a signatory – together the UK's "*international obligations*" – are transposed into UK law in their own right. For example, the Ramsar Convention (explained in **Section 3.11.4**) was transposed into UK law by the Wildlife and Countryside Act 1981 (explained in **Section 3.1.9**).

234. However, whether or not any particular UK international obligation has been transposed into UK law, Section 104(4) PA2008 makes provision against any decision which *"would lead to the United Kingdom being in breach of any of its international obligations"*. Therefore, in order to decide a DCO Application in accordance with the relevant NPSs, the international obligations in this section should not be breached.

3.12.1 The United Nations Convention on the Law of the Sea (UNCLOS)

235. The United Nations Convention on the Law of the Sea (UNCLOS), also called the Law of the Sea Convention, or the Law of the Sea Treaty, is an international agreement that establishes a legal framework for all marine and maritime activities. They include navigation, setting limits of 12nm for territorial waters and 200nm for EEZ, protection of the marine environment and dispute settlement, amongst others.

236. Article 60 concerns artificial islands, installations and structures in the EEZ. Article 60(7) states that "Artificial islands, installations and structures and the safety zones around them may not be established where interference may be caused to the use of recognized sea lanes essential to international navigation."

237. As per Article 22(4), "The coastal state shall clearly indicate such sea lanes and traffic separation schemes on charts to which due publicity shall be given".

3.12.2 Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention)

238. The Espoo (EIA) Convention is a treaty that aims to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities. It sets out the obligations of parties to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligation of States to notify and consult each other on all major projects under consideration that will have an LSE across international boundaries (transboundary effects).

239. Regulation 32 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (also referred to as the EIA Regulations) places a statutory duty on the SoS to consider transboundary effects.

240. If the SoS is of the view that a project is likely to have an LSE in another European Economic Area (EEA) State, that State must be consulted about the application.

3.12.3 OSPAR Convention

241. The Convention for the Protection of the Marine Environment of the North-East Atlantic (the 'OSPAR Convention') aims to protect the marine environment in the North-East Atlantic.

242. The OSPAR Convention (OSPAR Secretariat 1992) was signed in Paris in 1992 and commits its signatories to *"prevent and eliminate pollution and shall take the necessary measures to protect the maritime area against the adverse*

effects of human activities so as to safeguard human health and to conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected".

243. The OSPAR Convention contains a series of Annexes, with the objectives of protecting and conserving the marine environment, including:

- Annex III: Prevention and elimination of pollution from offshore sources
- Annex IV: Assessment of the quality of the marine environment
- Annex V: On the protection and conservation of the ecosystems and biological diversity of the maritime area

3.12.4 Ramsar Convention

244. The Convention on Wetlands, signed in Ramsar, Iran, in 1971, is an intergovernmental treaty providing the basis for conserving and using wetlands wisely. A wetland area is designated as a Ramsar Site if it can support at least 20,000 water birds and/or support 1% of the individuals in a population of one species, or subspecies, of water birds. Ramsar Site designation contributes to the protection of habitat and helps to achieve sustainable development.

245. Provisions in the WCA 1981 (explained in **Section 3.1.9**) transposed the provisions of the Ramsar Convention into UK law. Under domestic nomenclature, Ramsar Sites are usually designated as SSSI, Special Area of Conservation (SAC) and SPA are collectively referred as the NSN.

3.12.5 United Nations Environmental Programme (UNEP) Convention on Biological Diversity 1992

246. The United Nations Environmental Programme (UNEP) Convention on Biological Diversity (CBD) is a legally binding treaty and the UK's responsibilities towards it lie with DEFRA.

247. The CBD was given statutory effect by Regulation 7 of the Infrastructure Planning (Decisions) Regulations 2010. The SoS must take the objectives of the UNEP CBD into account when considering the likely impacts of the Proposed Development, including appropriate objectives and mechanisms for mitigation and compensation.

248. The Bonn Convention on the Conservation of Migratory Species of Wild Animals was agreed in 1979 (United Nations 1979). It recognised the importance of migratory species and recommended that signatory parties should promote, co-operate and support research, *"shall endeavour to provide immediate protection for migratory species"* and to conclude agreements covering their conservation and management.

249. The Bern Convention on the Conservation of European Wildlife and Natural Habitats is a binding international legal instrument in the field of nature conservation, covering most of the natural heritage of the European continent and extending to some States of Africa. It has been signed by 49 countries and the European Union.

4 Project Need

4.1 Introduction & Need in National Policy Statements

4.1.1 NPS Policy on Need

250. Section 104(3) of the PA2008 requires that, with regard to any application such as the Project, "*the Secretary of State must decide the application in accordance with any relevant national policy statement*", unless certain specified exceptions apply.

251. This section, therefore, considers NPS Policy on the need for electricity generation, including the urgency of the need, and demonstrates how the Project meets each aspect of need established by NPS Policy.

252. The Overarching National Policy Statement for Energy (EN-1), supplemented by the NPS for Renewable Energy Infrastructure (EN-3), designated in January 2024, established the Policy on the need for renewable electricity generation and, as above, the decision on the Application must be decided in accordance with the NPSs.

253. NPS Policy on need draws upon UK and international Legislation and Policy commitments to renewable energy and wider Policy objectives for UK energy security, decarbonisation and economic growth.

254. The key aspects of need for nationally significant electricity infrastructure, including offshore wind power projects, established by NPS Policy and considered in NPS EN-1, are:

- 2.2, 2.3, and 2.4 Net Zero and Decarbonising the Power Sector - (see **Section 4.2** below)
- 2.5 Security of Energy Supplies – (see **Section 4.3** below)
- 2.6 Sustainable Development – (see **Section 4.4** below)
- 3.3 The need for new nationally significant energy infrastructure projects - (see **Section 4.5** below), including:
    - The need for new nationally significant electricity infrastructure (see **Section 4.5.1** below)
    - Alternatives to new electricity infrastructure (see **Section 4.5.2** below)
    - Delivering affordable decarbonisation (see **Section 4.5.3** below)
    - Policy on the role of wind and solar (see **Section 4.5.4** below)
    - Policy on the alternative of electricity storage (see **Section 4.5.5** below)

- Policy on the alternative of Combustion Power Stations (see **Section 4.5.6** below)
- Policy on the alternative of interconnectors (see **Section 4.5.7** below)
- Policy on the alternative of nuclear generation (see **Section 4.5.8** below)
- Policy on the alternative of hydropower and marine technologies (see **Section 4.5.9** below)

- 3.3 and 4.2 Policy on the need for electricity generating capacity including, the urgency of that need and CNP projects (see **Section 4.5.10** below)

4.1.2 Need and International Obligations

255. Where these aspects of Need are underpinned by international treaties and the UK's obligations under them, this is set out in the text below, given the important consideration in Section 104(3) and (4) PA2008 that the SoS *"must decide the application in accordance with any relevant national policy statement….except to the extent deciding the application in accordance with any relevant national policy statement would lead to the United Kingdom being in breach of any of its international obligations*".

4.2 Net Zero and Decarbonising the Power Sector

256. Key NPS EN-1 Policy on meeting the need to achieve Net Zero and decarbonise the UK power sector are set out below (emphasis added):

"*Paragraph 2.2.1 of EN-1, "In June 2019, the UK became the first major economy to* ***legislate for a 2050 net zero Greenhouse Gases*** *('GHG') emissions target through the Climate Change Act 2008 (2050 Target Amendment) Order 2019. 22…. In April 2021, the government* ***legislated for the sixth carbon budget (CB6), which requires the UK to reduce GHG emissions by 78 per cent by 2035 compared to 1990 levels****".*

"2.3.7 ….Using electrification to reduce emissions in large parts of transport, heating and industry could lead to more than half of final energy demand being met by electricity in 2050, up from 17 per cent in 2019, representing a ***doubling in demand for electricity*** *[28]*

28 The Impact Assessment for CB6 shows an illustrative range of ***610-800TWh in 2050****"*

"2.3.2 In October 2021 the government published the Net Zero Strategy. This set out our vision for ***transitioning to a net zero economy*** *and the policies and proposals for decarbonising all sectors of the UK economy to*

meet our net zero target by 2050, making the most of new growth and employment opportunities across the UK."

"*2.3.3 Our objectives for the energy system are to ensure our supply of energy always remains secure, reliable, affordable, and consistent with meeting our target to cut GHG* ***emissions to net zero by 2050, including through delivery of our carbon budgets and Nationally Determined Contribution****. This will require a step change in the decarbonisation of our energy system*."

"*2.3.4 Meeting these objectives necessitates a* ***significant amount of new energy infrastructure****, both large nationally significant developments and small-scale developments determined at a local level. This includes the infrastructure needed to convert primary sources of energy (e.g. wind) into energy carriers (e.g. electricity or hydrogen) …."*

"2.4.1 Since the designation of the original EN-1, overall GHG emissions from the power sector have more than halved, from ~145MtCO_2e *in 2011 to ~60MtCO_2e in 2019 (see figure 1). This can be mainly attributed to the proportion of renewable generation more than quadrupling from 10 per cent to 43 per cent between 2011 and 2020 whilst the share of electricity generation from coal reduced from 29 per cent to 2 per cent over the same period."* [5]

257. NPS Policy on decarbonising the power sector and achieving Net Zero is, therefore, underpinned and reinforced by legislation which requires its achievement, originally in the CCA 2008, but more recently in The Carbon Budget Order 2021.

258. In turn the CCA2008, and related NPS Policy on Net Zero and decarbonisation, is given additional strength by a range of UK international obligations, which in accordance with Section 104(4) PA2008, the provisions of which are not to be breached. These international obligations need to achieve decarbonisation and the ways in which they underlie NPS policy on the need for decarbonisation, are considered below.

259. Following negotiations launched in December 1990 by the United Nations (UN) General Assembly, the UN Framework Convention on Climate Change (UN 1992 - the 'Convention') was adopted on 9th May 1992. It was also opened for signature in 1992 at the UN Conference on Environment and Development in Rio de Janeiro, Brazil, also termed the 'Rio Earth Summit'. The Summit was held on the twentieth anniversary of the first world conference to make the environment a major issue: "The United Nations Conference on the Human Environment", held in Stockholm in 1972). The

[5] Carbon dioxide equivalent or CO_2e means the number of metric tons of CO_2 emissions with the same global warming potential as one metric tonne of another greenhouse gas.

Convention now has 186 Parties, including the UK, and is approaching universal global membership. The Convention was operationalised at a COP to the Convention held in Kyoto, Japan in 1997 (COP3). COP is the supreme decision-making body under the Convention. The Protocol agreed at Kyoto in 1997, the 'Kyoto Protocol' (which came into force in 2005), established mechanisms for carbon emissions reductions, including emissions trading.

260. In line with the Kyoto Protocol, Signatory States including the UK, therefore developed National Targets for decarbonisation and energy generation from renewable sources. As part of these, under the UK CCA2008, the UK committed to reducing greenhouse gas emissions by at least 80% by 2050, when compared to 1990 levels, and to setting five-yearly carbon budgets, twelve years in advance, from 2008 to 2050. In doing so, the UK Government is required to consider, but not necessarily follow, the advice of the Committee on Climate Change (CCC, also created under the CCA2008) when setting these budgets.

261. At COP21 in Paris in 2015, the UK Government further committed to pursue efforts to limit the global temperature increase from climate change to within 2°C of the pre-industrial average temperature, with an aspiration for an improved limit of 1.5°C, known as the 'Paris Agreement'.

262. The Glasgow Climate Pact, signed at COP26 in Glasgow in 2021, agreed a series of resolutions on co-ordinated international action to tackle climate change, including the finalised Paris Agreement Rulebook.

263. The most recent COP (COP28) was held in Dubai in November/December 2023. Some of the most significant outcomes of COP28 included a consensus being reached on the need for a global transition away from fossil fuels (however this did not amount to a commitment to phase them out completely), the conclusion of the first Global Stocktake, the Food and Agriculture Organization roadmap to 1.5°C, in addition to the Global Renewables and Energy Efficiency Pledge, the latter of which is a commitment to triple the world's renewable energy generation capacity by 2030.

264. The fifth UK Carbon Budget (CCC2015), drawn up by the CCC, called for the UK to make a 57% reduction in carbon emissions by 2032, compared to emission levels in 1990. The UK Government committed to this requirement through The Carbon Budget Order 2016.

265. More recently, the target in CCA2008 (to reduce greenhouse gas emissions by at least 80% by 2050, when compared to 1990 levels) was amended by The CCA2008 2050 Target Amendment Order 2019, to a reduction of net emissions by 100% by 2050, relative to 1990 levels, to make the UK a 'Net-Zero' emitter.

266. Following this, in line with the recommendation of the CCC's sixth Carbon Budget (CCC2020), the UK Government made The Carbon Budget Order

2021, establishing the carbon budget for the 2033-2037 budgetary period at 965,000,000 tonnes of carbon dioxide equivalent, therefore, reducing emissions by 78% by 2035, compared to 1990 levels, as part of progress towards Net Zero by 2050.

267. There have been further recent notable developments in Government policy and legislation underpinning the need for decarbonisation set out in the NPSs, including:

- The UK Government's Ten Point Plan for a Green Industrial Revolution (HM Government, 2020a), set out the approach the Government will take to support green jobs and accelerate the path to Net Zero. Point one of the plan sets out how the Government will advance offshore wind as a critical source of renewable energy. By 2030 the aim is to produce 40GW of offshore wind (a target increased to 50GW of offshore wind generated electricity in BESS2022)
- The Energy White Paper: Powering Our Net Zero Future (HM Government, 2020b), sets out how the UK will reach targets for Net Zero emissions by 2050. The paper builds on the Ten Point Plan to set energy related measures, including a shift to low carbon and renewable energy
- The Net Zero Strategy: Build Back Greener (HM Government, 2021b), further builds on the approach presented in the Ten Point Plan. The Policy Paper sets out Policies and Proposals to deliver commitments on carbon budgets, Nationally Determined Contribution (NDC) and ambition for a decarbonised economy by 2050. The Policy Paper is pursuant to Section14 of the CCA2008. The Net Zero Strategy was successfully legally challenged in July 2022, mainly on the ground that it"*lacked any quantitative assessment of the contributions expected to be made by individual policies to reductions in GHG emissions, and also because the report did not reveal that the quantitative analysis put before the Minister left a shortfall against the reductions required by CB6, or how that shortfall was expected to be met"* (High Court of Justice, 2022). The Court, therefore, ordered the SoS to provide a further report to Parliament by April 2023, to address these omissions, but the Strategy as a whole has not been quashed, and therefore remains in place, as the report on Proposals and Policies for meeting carbon budgets, as required under CCA2008
- The BESS, published in April 2022 (covered further in **Section 4.3.1**) (HM Government 2022), set out an*"energy plan and key measures"* for a range of generation technologies. Significantly for the offshore wind sector, the UK Government's initial ambition was to increase the achievement of 40GW of generation capacity by 2030 (as set out in the Queens Speech in December 2019), which was updated by the BESS to achieve 50GW of offshore wind generating capacity by 2030.

- The Offshore Wind Net Zero Investment Roadmap (HM Government 2023) cites the UK's *"world leading policy and regulations"* as including:
  - "Increased our ambition for offshore wind deployment to up to 50GW by 2030, including up to 5GW of floating offshore wind
  - World leading market policy and market framework, running four CfD auctions in 7 years to support low-carbon electricity generation
  - Annual CfD auctions from 2023 onwards starting with Allocation Round 5 opening in March 2023 (see **Section 3.1.13**)
  - Considering the use of Non-Price Factors as a reform to the CfD scheme
  - Leasing rounds delivered by TCE giving opportunities to new entrants, with further seabed leasing rounds planned, including for floating wind in the Celtic Sea"

268. Related support in the Roadmap includes investment in innovation and skills, including the "*Innovative floating offshore wind demonstration programme – with £31 million government funding and £30 million of industry match funding*". The Roadmap also set out that around 20GW of offshore wind electricity generation capacity was either installed, or under construction, with a further 78GW of capacity in the consenting pipeline.

269. Policy established independently of Government, which had a significant influence on the above Government Policy and Legislation on decarbonisation, included recommendations that the UK Government should support 1-2GW of new offshore wind per year in the 2020s (CCC, 2015).

270. More recently, the CCC Report on recommendations for achieving Net Zero states that 75GW of offshore wind could be required to reach Net Zero by 2050 (CCC, 2019).

271. In terms of progress towards achievement of the levels of decarbonisation, as set out in NPS EN-1 Policy, and by the Intergovernmental Panel on Climate Change (IPCC), to which the UK is a Signatory, the IPCC's Climate Change 2023: Synthesis Report (IPCC, 2023) states that global temperatures have already increased "*1.1°C above 1850-1900 in 2011-2020*" and that "*A.4 Policies and laws addressing mitigation have consistently expanded since AR5. Global GHG emissions in 2030, implied by NDCs announced by October 2021, make it likely that warming will exceed 1.5°C during the 21st Century and make it harder to limit warming below 2°C*". Thus, the aspirational Paris Agreement aim of limiting global temperature increases to 1.5°C appears to now be unattainable, with the focus on limiting temperature rises to 2°C.

272. Similarly, the CCC's "Progress in Reducing UK emissions 2023 Report to Parliament" (CCC, 2023) summarises progress to date in the three related areas, as follows:

- *"Global climate change - 2022 was one of the six warmest years on record and the warmest year on record for the UK. 2023 is likely to be warmer than 2022. In 2022, the Earth was 1.15^{o}C (± 0.13^{o}C) warmer than the pre-industrial (1850 – 1900) average*
- *Climate impacts - Extreme weather events have drawn attention to climate impacts across the globe, making it clear that adverse impacts pose threats to developed, as well as developing, countries. Climate impacts and risks will escalate with every increment of global warming, with risks becoming increasingly complex and difficult to manage*
- *Global emissions - Preliminary estimates for 2022 show relatively small increases in fossil CO_2 emissions, with no signs yet of decreasing emissions beyond fluctuations related to the COVID-19 pandemic. There are some signs of progress through continued strong growth in renewables, but this growth must be supported by improved permitting processes for renewable projects, management of supply chain risks and financing that supports rapid deployment across the globe".*

273. UK emissions conclusions were as follows:

- *"Emissions in 2021 - Emissions were 446.0 mtCO_2e in 2021, 47% below 1990 levels. This was an increase of 4% from 2020, although levels remained 10% below pre-pandemic (2019) levels ... The increase was driven by a partial rebound in surface transport emissions following the pandemic, an increase in emissions from electricity supply, due to low wind speeds and nuclear outages, and higher heating requirements in residential buildings, due to cold winter months. Emissions in agriculture also increased, due to an increase in combustion emissions."*
- *"Emissions in 2022 - A provisional estimate of 2022 emissions is 449.6 mtCO_2e, an increase of 0.8% on 2021 levels, remaining 9% below pre-pandemic levels and 46% below 1990 levels"*

274. The reduced emissions in 2022, against pre-pandemic levels, appear mainly to be linked to the milder winter weather, reducing the amount of emissions from domestic heating *("after adjusting for the effect of temperatures on heating requirements, emissions from residential buildings fell by only 6% in 2022"*), a factor balanced by an almost doubling of aviation usage following the pandemic.

275. In summary, therefore, the world is not on track to contain the rise in global temperature to 1.5°C above pre-industrial levels.

276. This presents significant risks in terms of vulnerability and exposure to climate change. The CCC's 'Progress in Adapting to Climate Change 2023 Report to Parliament' (CCC, 2023a) set out the eight key risks that result from this, quoting from its '2021 Independent Assessment of UK Climate Risk', as being:

- *Risks to the viability and diversity of terrestrial and freshwater habitats and species*
- *Risks to soil health from increased flooding and drought*
- *Risks to natural carbon stores and sequestration from multiple hazards, leading to increased emissions*
- *Risks to crops, livestock and commercial trees from multiple climate hazards*
- *Risks to supply of food, goods and vital services, due to climate-related collapse of supply chains and distribution networks*
- *Risks to people and the economy from climate-related failure of the power system*
- *Risks to human health, wellbeing and productivity from increased exposure to heat in homes and other buildings*
- *Multiple risks to the UK from climate change impacts overseas"*

277. The report goes on to warn:

"In the UK, 2022 was the warmest year on record, while the warmest ten years have all occurred since 2003 …The scale of the impacts on people, ecosystems and infrastructure in the UK from weather extremes even in today's climate has yet again been made clear".

278. This Project will generate around 480MW of low carbon electricity from an offshore windfarm (anticipated nominal capacity), equivalent to approximately 2,456GWh of renewable electricity per year.

279. Over the lifespan of the Project, which is estimated to be up to 35 years, approximately 85,950GWh of renewable electricity could be generated. This would save the equivalent of around 36 Mt of CO_2e, through displacement of demand from traditional non-renewable fuels (or 1.03 Mt per year, consistent with accepted levels of emissions from non-renewable electricity generation) (Allen 2011) and as set out in **Chapter 21 Climate Change** (Document Reference 5.1.21). This level of carbon emissions reductions is equivalent to 5% of the carbon emissions reductions of 21 Mt per year required between 2033 and 2037 under the UK's Sixth Carbon Budget.

280. This Project will, therefore, make a significant contribution to meeting NPS policy regarding establishing need, underpinned by the above legislation and international obligations, to decarbonise the energy sector and achieve Net Zero.

4.3 Security of Energy Supplies

4.3.1 NPS Policy on Security of Supply

281. Key NPS EN-1 Policy on meeting the need to achieve Net Zero and decarbonise the power sector is set out below (emphasis added):

"2.5.1 Given the vital role of energy to economic prosperity and social well-being, it is important that our ***supplies of energy remain secure, reliable and affordable*****"**.

"*2.5.6 The British Energy Security Strategy emphasises the importance of addressing our underlying vulnerability to international energy prices by reducing our dependence on imported oil and gas, improving energy efficiency, remaining open minded about our onshore reserves including shale gas, and* ***accelerating deployment of renewables****, nuclear, hydrogen, CCUS, and related network infrastructure, so as to ensure a domestic supply of clean, affordable, and secure power as we transition to net zero".*

"*3.3.3 To ensure that there is sufficient electricity to meet demand,* ***new electricity infrastructure will have to be built to replace output from retiring plants*** *and to ensure we can meet increased demand. Our analysis suggests that even with major improvements in overall energy efficiency, and increased flexibility in the energy system,* ***demand for electricity is likely to increase significantly over the coming years and could more than double by 2050*** *as large parts of transport, heating and industry decarbonise by switching from fossil fuels to low carbon electricity.* ***The Impact Assessment for CB6 shows an illustrative range of 465-515TWh in 2035 and 610-800TWh in 2050".***

"3.3.16 If demand for electricity doubles by 2050, we will ***need a fourfold increase in low carbon generation*** *and significant expansion of the networks that transport power to where it is needed. In addition, we committed in the Net Zero Strategy[43] to take action so that by 2035, all our electricity will come from low carbon sources, subject to security of supply, whilst meeting a 40-60 per cent increase in electricity demand.* ***This means that the majority of new generating capacity needs to be low carbon".***

"3.3.21 As part of delivering this, UK government announced in the British Energy Security Strategy[45] an ambition ***to deliver up to 50 gigawatts (GW) of offshore wind by 2030****..."*

"4.2.3 With smart and strategic planning, the UK can maintain high environmental standards and minimise impacts while ***increasing the levels of deployment at the scale and pace needed to meet our energy security*** *and Net Zero ambitions".*

*"4.2.4 Government has therefore concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructur*e."

282. NPS Policy on the security of energy supplies is underpinned and reinforced by the BESS (HMG, 2022) which, in summary, proposes an *"approach to reduce global reliance on Russian fossil fuels whilst pivoting towards clean, affordable energy"*. The BESS has the key aim for the UK to achieve long-term independence from foreign energy sources and also decarbonise the Nation's power supply. The Strategy echoes the communication released on 8th March 2022, by the European Commission, in relation to the Joint European Action, for more affordable, secure and sustainable energy. The Policy also includes the ambitious UK wide target for installed offshore wind capacity to be increased to 50GW by 2030.

283. In contrast with the BESS's objectives, the UK has consistently been a net importer of electricity since 2010, except for a period in 2022, when France's nuclear fleet was experiencing shutdowns.

284. In turn, this Strategy identifies the following factors driving the need for security of energy supplies:

- Effects on the energy prices and cost of living, due to disruption to the global oil and gas market arising from the conflict in Ukraine
- Reopening of the economy and the spike in energy demand following the pandemic
- Reducing UK dependence on imports of oil and gas and their inherent "price volatility"
- The need for"power that can be relied on, even when the sun is not shining, or the wind is not blowing"including"investing massively in nuclear power"
- Accelerate our progress towards net zero and the projection that"we will have reduced our gas consumption by over 40% by 2030"
- High wage, high skilled new jobs

285. Another Policy underlying the BESS (HMG, 2022) originated prior to the UK's departure from the EU. Under the provisions of the EU Energy Union, and in order to ensure a co-ordinated and concerted approach across the EU and implementation of the EU Energy Strategy, each Member State (MS) was required to submit to the European Commission its draft Integrated National Energy and Climate Plan (INECP), by 31st December 2018, and its final Integrated Plan, by 31st December 2019.

286. In The UK's INECP (BEIS, 2020), the Government recognises the importance to businesses and households of access to an affordable, secure and sustainable supply of energy, including meeting the requirement for, *"Where*

applicable, national objectives with regard to reducing energy import dependency from third countries, for the purpose of increasing the resilience of regional and national energy systems".

287. Aligned with this, under The Energy Act 2004, an annual Security of Supply Report is presented to Parliament. DESNZ's "*Statutory Security of Supply Report 2023*" (DESNZ 2023b) states that *"GB has demonstrated consistent success in ensuring secure electricity supplies and is expected to continue this trend in the future. The ESO forecasts sufficient electricity capacity to meet this winter's demand, with a margin of 4.4GW (about 7.4%) between supply and demand. This is an increase on the 3.7GW (6.3%) that was expected at this time last year."*

288. However, generation capacity of the UK generally has been falling in recent years, as noted further in **Section 4.3.3** below.

289. Other underlying factors that have reduced generating capacity and increased demand for energy in the UK in recent years, considered further in the following sections, are:

- The decline in fossil fuel reserves
- The required ongoing closure and decommissioning of existing ageing fossil fuel and nuclear energy generating infrastructure, for a range of operational and carbon emissions targets reasons, including limits placed on CO2 emissions from Capacity Market Plants burning fossil fuels to below 550gCO2/kWh from 2020 (as explained in paragraph 2.5.10 to 2.5.13 of NPS EN-1)
- Limited progress in growing renewables, as a proportion of the source of our energy, relative to previous NPSs and related national targets
- The rebounding of the economy post-pandemic
- The transitioning of the transport, steel production and other industries to the use of electricity, instead of fossil fuel sources of energy, including, for example, rapid growth in the take up of electric vehicles

4.3.2 Security of Supply to Meet Increasing Demand

290. Increasing the supply of electricity from domestic production is urgently needed to meet an increasing demand from the following sources:

- The electrification of industry
- The electrification of the vehicle fleet
- Spikes in demand, due to sudden changes in temperature, from the effects of climate change
- The electrification of domestic heating systems

291. The basis for the expected doubling of demand for electricity in the UK, as set out in NPS EN-1, is the CCC's "*Balanced Net Zero Pathway for Electricity Generation*" in its Sixth Carbon Budget (CCC, 2020), which, echoing the above NPS Policy, states that the scenario is characterised by:

"*Increasing demand for electricity. This reflects increasing electrification of the economy (e.g. use of electric vehicles in transport). There is a doubling of demand, from around 300 TWh today to 360 TWh in 2030, 460 TWh in 2035, and 610 TWh in 2050".*

292. Recent years have, however, seen a gradual reduction in the demand for electricity in the UK owing, in the case of domestic consumption, to increased take up of energy efficiency measures alongside, significantly, a pattern of milder winters in the UK.

293. The more common pattern over the decade was as stated in the Digest of UK Energy Statistics (DUKES) (DECC 2015), which reported on the most significant single year fall in demand to date (and a fall which was only exceeded in 2021):

"*With the warmer temperatures in 2014, domestic consumption fell by 4.0 per cent in 2013, from 113 TWh to 109 TWh. Domestic consumption has generally been declining on account of milder winters and continuing energy efficiency improvements. Commercial sector consumption in 2014 fell on 2013's level, by 5.0 per cent, to 75 TWh*".

294. Similarly, in 2022 (DESNZ, 2023):

"The decrease this year is larger than in previous years since 2015, with the exception of the drop in 2020 due to the pandemic, and was driven primarily by rising prices and the record high annual average temperature".

295. However, whilst the decline in demand has been gradual and on average between 1.5% and 1.7% per year (DUKES, DESNZ 2023 - depending on the sector considered), this contrasts with the factors driving demand, which appear to be volatile and disruptive. For example, the trend reversed and demand for electricity increased sharply in 2021, as stated in BEIS 2022:

"The reduction of restrictions in response to Covid-19 led to an increase in industrial and commercial electricity consumption, whilst cooler temperatures increased domestic consumption"

296. Another notable example was the conflict in Ukraine which began in 2022, which, amongst other things, prompted the establishment of the BESS in the UK (HM Government, 2022). The strategy has been rapidly deployed with House of Commons Library research finding in August 2022 (House of Commons, 2022) that:

"*In 2021 imports from Russia made up 4% of gas used in the UK, 9% of oil and 27% of coal. In 2021, imports of gas, oil and coal from Russian to the UK were worth a combined £4.5 billion. According to Eurostat, in 2020, imports from Russia made up 39% of the gas used in the EU, 23% of oil imports and 46% of coal imports. In June 2022, the fourth full month since the invasion, according to UK trade statistics, the UK imported no oil, gas or coal from Russia. This was the third month in a row with no Russian gas imports, but the first month (since 2000 when this data is available) with no gas, oil or coal imports from Russia*"

297. In a global market, this continued reduction in supply from Russia maintains the upward pressure on demand for electricity and on prices in the UK and Europe, even when the UK's supplies are more diversified (House of Commons, 2023). More recently, this pressure has been overcome by the supply from other countries (including Liquified Natural Gas (LNG) from the United States of America (USA)) and prices have fallen, though the market is still vulnerable to international shocks, which could see prices peaking again, for reasons outwith the control of the UK.

298. The UK Government's commitment to reducing reliance on gas and oil for heating and transport respectively will also significantly increase demand for electricity to at least 400TWh by 2050 in all National Grid Future Energy Scenarios presented in its 2021 Report (National Grid, 2021).

299. In addition, the increasing unpredictability of weather patterns, due to the effects of climate change, can be expected to continue to bring occasional, severely low temperatures in winter, with consequent spikes in demand for electricity, which, to meet NPS Policy Objectives on Security of Supply, will need to be met by increased UK generating capacity. The potential for extreme low temperatures to occur in the context of a pattern of increasing global temperatures is summed up by the UK Met Office (UK Met Office, 2024):

"*Events such as Sudden Stratospheric Warmings (SSWs), which can lead to cold conditions across the UK in winter, are also affected by the changing climate. However, how these events are likely to change in the future is less well-understood compared to average surface temperatures due to their complexity. These events and global circulation patterns influence our weather and can still lead to extreme cold events occurring even while average temperatures increase*"

300. In addition, the transition to Electric Vehicles (EVs) in the UK has significantly accelerated and continues to do so, (see the Department for Transport's extrapolation from recent data in **Plate 4.1**) having been faster than predicted in several recent forecasts. However, since the increase is taking place from a low base (latest figures show that only 3.1% of the UK's 40 million vehicles are electric), significant increase in electricity demand has been delayed and

can be expected to occur in the next few years, as such vehicles begin to exceed 5%, and then 10%, of the total (Fleet News, 2023).

301. As reported by the Office for Budget Responsibility (OBR, 2022),

"*In 2021, 11.6 per cent of cars sold were EVs compared to our October 2021 forecast of 9.5 per cent, as the share surged in the final months of the year. And the share of EVs in total car sales has repeatedly surprised us to the upside in recent years.*"

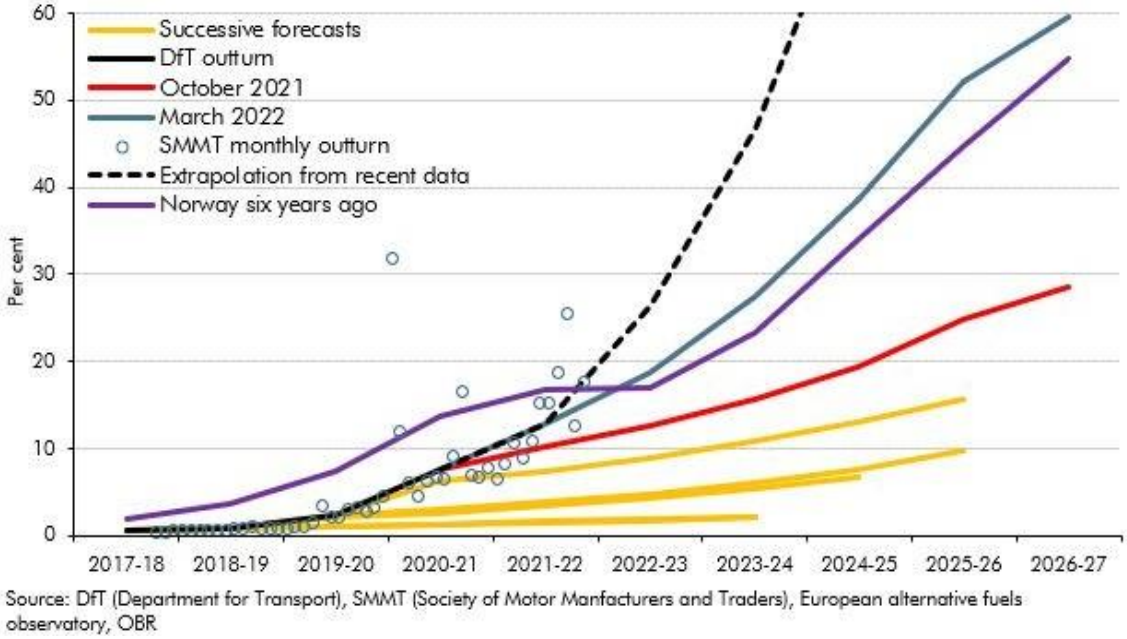

Plate 4.1 Electric Vehicle New Market Share (OBR 2022)

302. Further evidence of the likely increase in electricity demand comes in the decarbonisation of industry. The decision by Tata Steel to replace traditional fossil fuel powered blast furnaces with Electric Arc Furnaces (EAFs), in Port Talbot, could have a massive effect on electricity demand. According to the Materials Processing Institute "To produce a tonne of steel in an EAF, at the practical minimum, 1.6GJ of electricity (440kWh) is required".

303. Given that Port Talbot produced 3.3Mt of steel last year, the same volume of steel produced with the proposed EAFs will require 1,232,000MWh, or 1.23 TWh, of electricity, equivalent to 0.4% of the total UK electricity demand of 320.7TWh in 2022 from a single steel works.

304. British Steel has also unveiled plans to convert the country's second largest steel production works, in Scunthorpe, to EAF production, raising the prospect of all 9mt of UK steel production being produced from EAFs, demanding 4TWh of electricity, or 1.25%, of the total UK electricity demand in 2022 (Materials Processing Institute, 2023 and Tata, 2023).

305. Demand can also increase as it is stimulated by new sources of supply and in parallel with proposed increases in generation. This can take place where new

generating capacity has been created to allow the promoter to increase its energy consumption, an example is many so called 'private wire' power purchase agreements, the growth of which continues apace. In 2015, Tata obtained planning consent for a 150MW gas-fired generating station at Port Talbot which, whilst connected to the National Grid, also supports the company's own energy needs. In 2022, the largest private wire solar farm connection of 20MW was built by Engenera Renewables Group to serve the Nissan car manufacturing works in Sunderland. The solar project will provide energy for Nissan's Sunderland factory facility, totalling 20% of the plant's energy needs. The proposed battery manufacturing plant at the Gravity Smart Campus site, in Somerset, has been sited near the Hinkley C nuclear generating station and is co-located next to Puriton Solar Farm, in Somerset, which will both meet the plant's demand for energy. Whether through planned co-location or development of private wire connections, as industry owners develop new generation capacity, a rise in demand from linked increases in industrial activity can be expected to follow.

306. In addition to transport and industry, other sectors too are forecast to significantly increase demand for electricity. The largest natural gas consuming sector in the UK (other than generation of electricity) is domestic use, accounting for 32% of all UK natural gas consumption (DUKES, 2023). UK Government policy to phase out 80% of installations of new gas boilers by 2035 can be expected to have a dramatic impact in terms of increased demand for electricity, consistent with the CCC's Sixth Carbon Budget scenario and NPS policy.

4.3.3 Generating Capacity for Security of Supply

307. Taking as the baseline the year 2009, when the first Overarching Energy NPS EN-1 was drafted, including targets for increasing UK generation capacity, according to DUKES (DESNZ 2023 – see **Table 4.1** and **Plate 4.2**) the UK's total de-rated generation capacity dropped to 76.7GW in 2022, which is a marked fall from generating capacity of 85GW in 2010, despite being 0.4% higher than in 2021. Capacity for renewable technologies increased by 6.2% to 24.6GW, fossil fuel capacity increased 1.9% to 43.5GW and nuclear capacity decreased 25% to 5.9GW.

308. Whilst UK generation rose by just over 5% in 2022, this came following a fall in UK generation the previous year and a total of 15% reduction in generation since 2010, when the first NPS EN-1 was prepared, which is a marked and significant decline.

309. The failure to meet the need established in the 2011 NPS EN-1 for an additional 59GW of new installed generation capacity, in order to achieve 113GW of total UK generation capacity by 2025, has meant greater reliance

on gas and other fossil fuels than was anticipated, with commensurate failures to reduce emissions as fast as the former NPS projected.

310. The decline in UK generating capacity is due to two principal reasons. Firstly, the gradual reduction in the use of fossil fuels to generate electricity, as fossil fuel generating stations have been closed down in compliance with emissions reductions targets. Of all fossil fuels, coal as a fuel input to electricity generation declined most dramatically, from a total of 79.41 Million Tons of Oil Equivalent (Mtoe) burned in 2010, to just 1.4Mtoe in 2022 (DUKES, 2022). Oil burned in generation declined from 1.18Mtoe in 2010, to 0.56Mtoe in 2022. Generation from nuclear fuels declined by a smaller proportion (from 13.93Mtoe in 2010, to 10.36Mtoe in 2022). Gas used in generation also declined (from 32.43Mtoe in 2020, to 22.17Mtoe in 2022), but less consistently than other fossil fuels, with this reduction interrupted with periods of increasing use of gas in generation in 2013 to 2014, significantly in 2015 to 2016 and once again between 2020 and 2022. In total, the use of fossil fuels in generation declined by 54% between 2010 and 2022.

311. Secondly, the assumed addition of 33GW of renewable energy generating capacity by 2025, as set out in the former 2011 NPS EN-1, was not on track to be delivered at designation of the current NPS EN-1 in January 2024. Given that by the end of 2022, the total declared net capacity (derated) from renewable sources was only 23.9GW , a significant increase, but not on course to achieve the increase to 33GW of UK generation capacity envisaged as necessary to meet minimum need, established in the former NPS EN-1.

312. With regard to the new and current NPS EN-1, as above, this envisages a doubling of demand for electricity *"from around 300TWh today, to 360TWh in 2030, 460 TWh in 2035 and 610 TWh in 2050"*. To be precise, this is based on 320.7TWh of actual demand in 2022 (DUKES, 2023), equivalent to an average demand per hour of 36.6GW over the year. A doubling of demand would, therefore, equate to average demand per hour of 73.2GW per hour. Since peak demand in 2022 was 48.6GW (and has been around 48GW in recent winters, despite changes in temperatures experienced), or 33% above average demand, peak demand in the NPS's 2025 doubling of demand scenario is likely similarly to be 33% above average demand or as high as 97.6GW. If the UK is to ensure that peak demand consumes no more than 75% of total generating capacity, as at present, then a doubling in demand for electricity by 2050, as set out in NPS Policy, would require 122GW of installed UK generating capacity by 2050 to be in accordance with NPS EN-1 paragraph 2.3.7. This is consistent with the NPS EN-1 paragraph 3.3.16 policy that *"we will need a fourfold increase in low carbon generation"*, from the current UK low carbon generation capacity of 30.5GW (DUKES, DESNZ 2023) to 122GW of low carbon generation capacity by 2050.

Table 4.1 NPS EN-1 Total UK Generating Capacity Scenario against actual total UK generating capacity, sources: DUKES Table 5.7 (DESNZ 2023) and NPS EN-1 2011 and 2023 versions

NPS EN-1 UK generation capacity scenario - progress to date	Year								
	2009	2015	2020	2025	2030	2035	2040	2045	2050
NPS Policy Total Generating Capacity Needed (MW) 2009-2025 NPS EN-1 (DECC 2011) 2025-2050 NPS EN-1 (DESNZ 2023)	85	94.3	103.7	113	114.8	116.6	118.4	120.2	122
Actual Total UK Generating Capacity (MW)	85	80	77	N/A	N/A	N/A	N/A	N/A	N/A

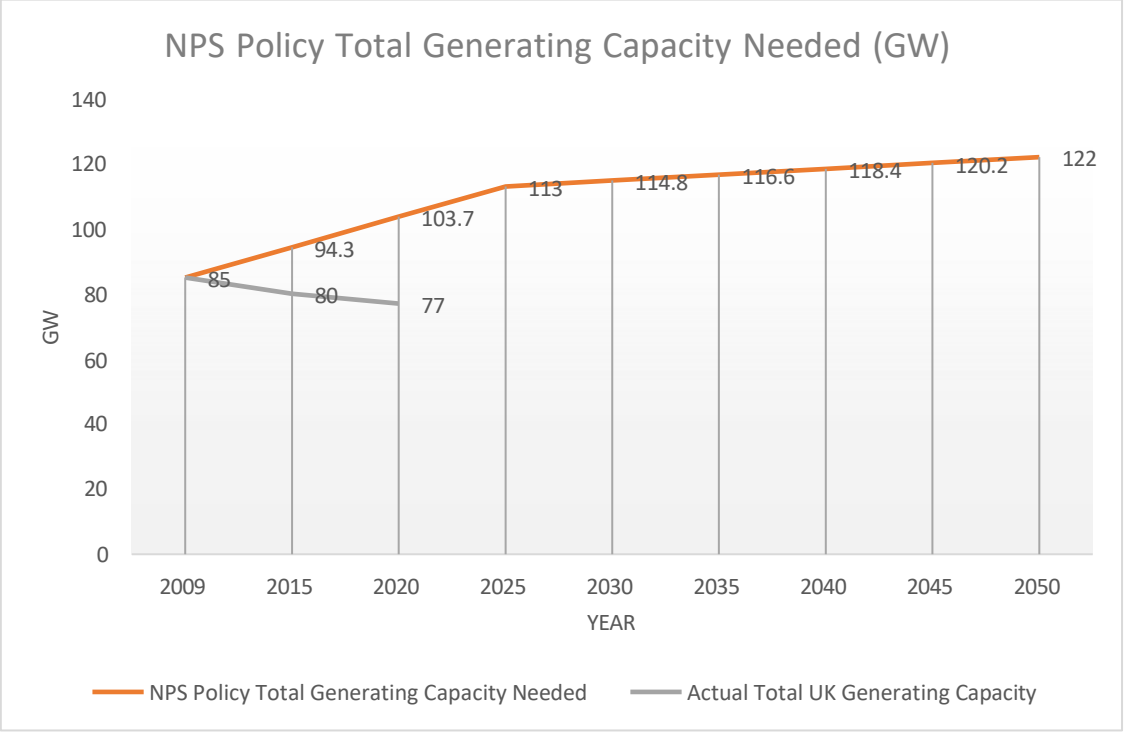

Plate 4.2 NPS Policy total generating capacity needed and actual total UK generating capacity, source: DUKES 2023 Table 5.12.C

313. As can be seen from **Table 4.1** and **Plate 4.2** progress towards the new NPS EN-1 total UK demand and related generation capacity scenario is not currently on track, when judged against the average increments in capacity that would be needed year on year to meet the scenario.

314. In addition, taking the 2011 NPS EN-1 as the policy that provided the groundwork to meet the refreshed 2024 NPS EN-1 2050 scenario, **Table 4.2** and **Plate 4.2** also shows that its targets for 2025 had not been met by the time of the designation of the new NPS in January 2024. The Policy requirement in the 2011 NPS EN-1, to increase generation capacity in general and from renewables and low carbon sources in particular, in order to reduce carbon emissions, is therefore, far from having been achieved and was very significantly undershot.

315. In fact, the UK actually had less generating capacity as a nation in 2022, at 77GW (DESNZ, 2023) (the latest year for which figures are available), than it did in 2009, when the baseline was set for the first NPS EN-1, at 85GW of generating capacity.

Table 4.2 UK Actual offshore wind generating capacity against the NPS targets, source: DUKES 2023 Table 5.12c (2024 total based on REPD DESNZ 2024c)

Year	Column A NPS Policy Offshore Wind Generating Capacity Needed 2009-25: NPS EN-1 (2011) 2025-30: NPS EN-1 (DESNZ 2023) (GW)	Column B Actual Offshore Wind Generating Capacity 2009-22: DUKES 2023 Table 5.12c 2024: REPD DESNZ 2024c (GW)	Shortfall (GW) in Offshore Wind = Column A – B
2009	0.5		
2011		1.83	
2012		2.99	
2013		3.69	
2014		4.50	
2015	6.25	5.09	1.16
2016		5.27	
2017		6.98	
2018		8.18	
2019		9.88	
2020	12.5	10.38	2.12
2021		11.25	
2022		13.92	
2023			

2024		15.01	
2025	20.84		
2026	26.67		
2027	32.50		
2028	38.33		
2029	44.16		
2030	50.00		

316. Whilst the ending of reliance on fossil fuel generation is a contributory factor to the reduced capacity, and one which helps deliver related NPS Policy, the significant under achievement in the deployment of new renewables generating capacity, as against NPS targets to date, has been a bigger factor. The 2011 NPS EN-1 set a minimum for renewables generation to rise to 39GW by 2025, from 6GW in 2009. In fact, renewables generation capacity had increased to only 24GW by 2022, such that achievement of 39GW of generating capacity from renewables by 2025 was almost certainly unachievable by the time of designation of the new NPS EN-1 in 2024.

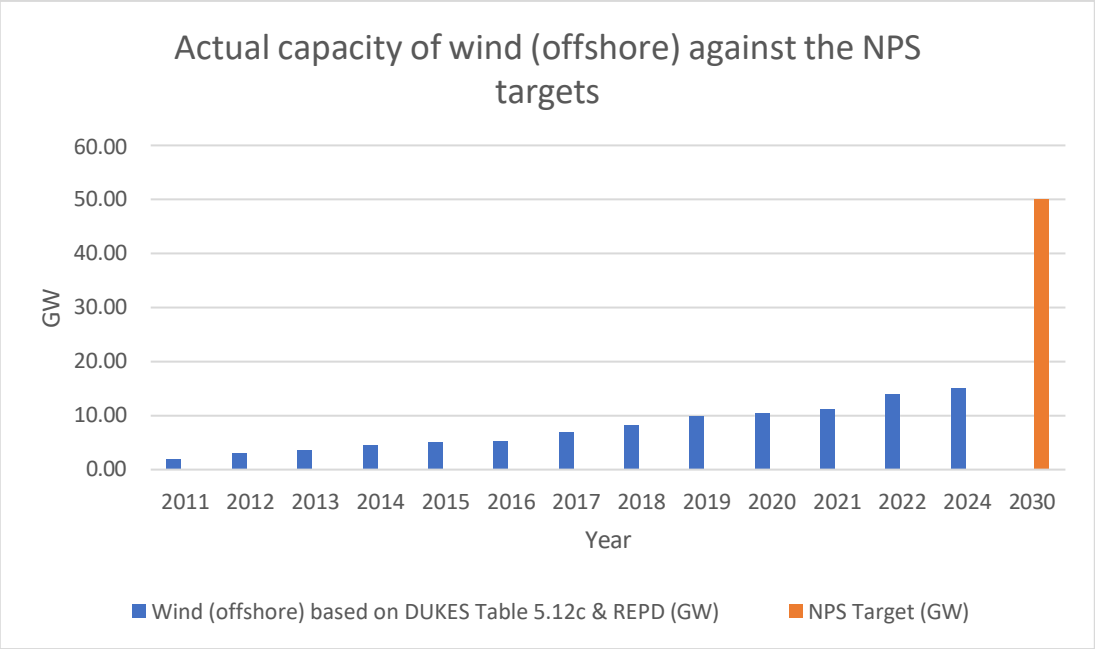

Plate 4.1 Actual offshore wind generating capacity against the NPS targets

317. Similarly, the new NPS EN-1 ambition for the UK to achieve 50GW of offshore wind generation by 2030 will not be met on the current rates of deployment illustrated in . Offshore wind generation capacity increased from 1.8GW in 2011, to 13.9GW in 2022. There is some evidence of a possible increase in deployment rates since 2022, with the DESNZ Renewable Energy Planning Database (REPD - DESNZ 2024c) stating that 15.01GW of offshore wind capacity is *"operational"* in the UK by the first quarter of 2024, but DUKES figures for installed offshore wind capacity in 2023 and 2024 are not yet available.

318. **Table 4.2** shows the rate of deployment of offshore wind generation since 2011 against the new NPS EN-1 policy to achieve 50GW of offshore wind capacity by 2030 (NPS targets for the 2011 to 2024 period are notional only since the 2011 NPS EN-1 did not include a specific target for offshore wind and was instead based on a need scenario of achieving 33GW of renewable electricity generation generally being achieved by 2025) and this progress is charted in **Plate 4.3**. Even if there has been a significant increase in 2023-24, subsequent increases in the rate of deployment will need to follow an exponentially upward curve of significant steepness, as **Plate 4.3** demonstrates, if the 50GW ambition is to be achieved by 2030. Such rates of deployment, necessary to meet the NPS EN-1 electricity demand scenario and offshore wind ambition policy, would mean the maximum number of projects would need to be consented and commissioned. This Project, therefore, which would on its own contribute almost 0.5GW (480MW), or 1.4%, of the shortfall of 35GW of generation capacity, needs to be deployed and commissioned in the next 6 years if the 50GW NPS Security of Supply policy ambition is to be successfully met or even substantially met.

319. The need and necessity of this Project to help meet the NPS Security of Supply and offshore wind policies is given more acute emphasis by the fact that the 2023 AR5 for renewable energy CfD resulted in not a single bid for offshore wind generation, marking a complete turnaround in recent progress towards deployment, with the industry body, Offshore Renewable Energy Catapult (ORE 2023), stating:

"this auction and other bottlenecks the industry is facing means the 2030 target to install 50GW of offshore wind is unlikely to be reached without significant renewed impetus"

320. In another blow to progress on the deployment of UK offshore wind, the Norfolk Boreas Offshore Windfarm (SI 2021/1414) was cancelled in 2023 by its promoter, Vattenfall, due to unforeseen increases in costs relative to income and financial support available. This posed a major setback to a key part of the UK's ongoing and future climate change and energy security plans. Affordability in the transition to net zero and low carbon energy is discussed further in **Section 4.5.3**.

321. The rate of deployment of offshore wind is, therefore, subject to external factors, despite the recent progress and the Policy Objectives. These external factors can delay deployment of offshore wind, rather than accelerate it. In the meantime, therefore, other alternatives to increasing generating capacity will be relied on to a greater or lesser extent (covered in the **Section 4.5.2** and **Sections 4.5.5** to **4.5.9** below). However, increasing UK generating capacity from offshore wind remains one of the three key drivers of NPS Policy on the need for UK generating capacity and therefore increasing supply from renewables has a greater priority than the alternatives. The existence of

alternatives is also not considered by the NPS to reduce or lessen the need for, and urgency of new generating capacity from offshore wind.

4.4 Sustainable Development

4.4.1 NPS Policy on Sustainable Development

322. Key NPS EN-1 policy on the achievement of sustainable development is set out below (emphasis added):

"2.6.1 The government's wider objectives for energy infrastructure include contributing to sustainable development[35] and ensuring that our energy infrastructure is safe.

2.6.2 Sustainable development is relevant not just in terms of addressing climate change, but because energy infrastructure has a long lifecycle. The way energy infrastructure is deployed affects the wellbeing of the environment, society and the economy. For example, the availability of appropriate infrastructure supports the efficient working of the market so as to ensure competitive prices for consumers. The regulatory framework also encourages the energy industry to protect the more vulnerable.

[35]As defined in 1987 by the World Commission on Environment and Development report Our Common Future - See https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf"

323. In turn, NPS policy on sustainable development is underpinned by international agreements and specifically by the 1987 definition of sustainable development, as set out by the World Commission on Environment and Development report 'Our Common Future', which states:

"*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs*".

324. As stated in NPS EN-1 paragraph, this relates to the *"wellbeing of the environment, society and the economy, for both current and future generations"*.

4.4.2 Environmental, Social and Economic Sustainable Development Outcomes

325. In terms of environmental wellbeing, the reduction of carbon emissions, to which this Project would contribute, is set out in **Section 4.2** above. Other environmental effects of the Project, including social and economic, are assessed in **Chapter 7** to **Chapter 23** of the ES (Document Reference 5.1.7 to 5.1.23). It is important to take account of the fact that offshore wind generation has considerably fewer or lesser adverse environmental effects than fossil fuel burning generation, given the absence of any emissions from

the electricity generation itself, which in the case of fossil fuel plants, have adverse effects in terms of both carbon emissions and other emissions harmful to human and environmental health.

326. NPS EN-1 Policy on economic opportunities is underlined in paragraph 2.1.1, which identifies that an important priority of national policy is to:

"Seize the economic opportunities of the transition, and deliver on our net zero commitments".

327. On economic impacts and benefits paragraph 4.1.5 of NPS EN-1 requires that:

"*In considering any proposed development, in particular when weighing its adverse impacts against its benefits, the Secretary of State should take into account:*

• *its potential benefits including its contribution to meeting the need for energy infrastructure, job creation, reduction of geographical disparities, environmental enhancements, and any long-term or wider benefits*"

328. The need to maximise economic opportunities is given greater emphasis by a range of other UK Government and related Policies, which are considered important and relevant to the decision on the Project. These are considered in the following paragraphs.

329. The UK Clean Growth Strategy (HM Government, 2017a) recognises that actions and investments will be needed to meet the Paris Agreement Commitments and that the shift to clean growth will be at the forefront of Policy and economic decisions made by Governments and businesses in the coming decades. This creates enormous potential economic opportunity – an estimated US$13.5 trillion of public and private investment in the global energy sector alone will be required between 2015 and 2030, if the signatories to the Paris Agreement are to meet their current National Targets (BEIS, 2017).

330. In 2017, ORE Catapult undertook analysis of the UK offshore wind supply chain and estimated the current and future potential UK content of offshore wind projects (as a proportion of the overall UK energy production) as: 32% in 2017; 50% by 2020; and 65% by 2030. For context, it was described as *"around 50%"* in 2023 (DESNZ 2023d), so the projected figures remain valid. In the UK, the Gross Value Added (GVA) to the UK per GW installed, assuming 32% UK content, has been estimated as £1.8bn and is projected to increase to £2.9bn by 2030 – if 65% UK content can be achieved (assuming that 19GW installed capacity is reached) (ORE Catapult, 2017a). It is estimated that the total (domestic and export) market for UK-provided offshore wind could reach £4.9bn annually by 2030, or under a top end scenario, of £8.9bn annually by 2050 (ORE Catapult, 2018).

331. More recently, studies have shown that future offshore wind development does indeed generate a policy "double dividend", in the form of simultaneous

and substantial reductions in cumulative emissions, which in each case, exceed a year of the UK's total emissions, and additionally improvements in economic activity (of nearly £30 billion cumulative increase in value-added when the 60% target for local content is achieved).

332. According to RenewableUK's Offshore Wind Industry Investment in the UK report (RenewableUK, 2017), 48% of the total expenditure associated with UK offshore wind farms was spent in the UK in 2015. The UK content of expenditure during the development stage and operation of offshore wind projects was 73% and 75% respectively in 2015, whereas during manufacturing and construction, the UK content was 29% (RenewableUK, 2017).

333. The UK is positioned to continue growth in the offshore wind sector by maximising domestic energy resources and utilising the vast offshore wind resource that the UK holds. The UK also has a strong supply chain that continues to expand to support the growth in offshore wind.

334. The Energy White Paper: Powering Our Net Zero Future (HM Government, 2020) focussed on making the transition to clean energy by 2050 and what this will mean for consumers of energy in homes and places of work. A key aim for offshore renewables within the White Paper states:

"*We will invest in the growth of the UK's offshore wind manufacturing infrastructure to create jobs and opportunity in the UK supply chain. We will use our Offshore Wind Sector Deal with the renewables sector to ensure that domestic deployment creates jobs and raises skills levels across the country, and to support overseas trade and investment opportunities for UK-based companies. We will require developers who are awarded a CfD, to honour their supply chain plans*."

335. The energy sector in the UK continues to play a central role in the economy and renewable energy can also play a major part in boosting the economy and providing new jobs and skills for current and future generations.

336. The offshore wind industry in the UK provides important employment opportunities. The importance of maximising opportunities for the involvement of local businesses and communities in offshore wind has been highlighted as a key success factor for the wind energy sector in the UK (The Crown Estate, 2014). Low carbon businesses and their supply chain have created over 430,000 skilled jobs in the UK already with 7,200 jobs coming directly in offshore wind (BEIS, 2017):

"*Offshore wind has become a key part of the UK economy, creating much needed jobs not only in coastal communities like Hull, Grimsby and Great Yarmouth, but also across the country in the ever-expanding supply chain. A huge number of British companies are heavily involved in building the UK's world-leading offshore wind sector.*" (RenewableUK, 2017).

337. The success in North East England and the East of England could potentially be replicated along the coastal communities of the Irish Sea.

338. The UK Government's Ten Point Plan for a Green Industrial Revolution (November 2020), also set out the approach the Government will take to support green jobs and accelerate the path to Net Zero. Steps have already been taken to realise this ambition, through industry investment into the Offshore Wind Growth Partnership of up to £250m to support better, high-paying jobs right across the UK. The Ten Point Plan supports the industry's target to achieve 60% UK content by 2030. The offshore wind commitments will enable the offshore wind sector to support up to 30,000 direct jobs and 30,000 indirect jobs in ports, factories and their corresponding supply chains by 2030. The target of 60% UK content was considered achievable in independent research by Allan et al (2020*), "The economic and environmental impacts of UK offshore wind development: the importance of local content"* (Allan 2020).

339. The Project will provide not only investment but will also support the development of the supply chain, a highly skilled workforce and provide employment in line with sector Policy on UK content of offshore windfarms. Specifically, the sustainable development socio-economic benefits of the Project include:

- Approximately 170 years of employment in the Local Economic Area (LEA) and 4,870 years of employment across the UK over the construction period
- A predicted 110 FTE jobs in the LEA and 190 FTE jobs across the UK during the operation and maintenance phase
- Significant contribution to the supply chain
- Total potential expenditure in the order of £1,325 million, including construction cost, development and consenting cost, and operation and maintenance (in current pricing), with 42% of this within the UK and £16million in the LEA
- Around £16 million Gross Value Added (GVA) average per annum investment in operation and maintenance within the UK amounting, over the operational lifetime (35 years) of the Project, to £560 million, making a significant contribution on the national level

340. Further detail is provided in **Chapter 20 Socio-Economics, Tourism and Recreation** (Document Reference 5.1.20) and the **Outline Skills and Employment Plan** (Document Reference 6.11).

341. The Project, therefore, as a source of renewable energy, offers the UK a wide range of benefits from economic growth, energy security and decarbonisation perspectives. The Project will have the potential to make a significant and meaningful contribution to renewable energy supply and will consequently

contribute to meeting UK Government Objectives of delivering sustainable development to enable decarbonisation, ensuring the energy supply is secure, and providing socio-economic benefits in terms of jobs and inward investment in low carbon industries.

4.5 Need for Nationally Significant Energy Infrastructure

342. NPS EN-1 Policy on the need for nationally significant energy infrastructure is in ten parts, these are considered below, where relevant to the Project as an offshore wind generating station project.

4.5.1 NPS Policy on Need for Nationally Significant Electricity Infrastructure

343. Key NPS EN-1 policy on the achievement of the need for nationally significant electricity infrastructure includes achieving a margin of generation capacity over supply, and is set out below (emphasis added):

*"3.3.1 ....We **need to ensure that there is sufficient electricity to always meet demand; with a margin to accommodate unexpectedly high demand and to mitigate risks** such as unexpected plant closures and extreme weather events.*

3.3.2 The larger the margin, the more resilient the system will be in dealing with unexpected events, and consequently the lower the risk of a supply interruption. This includes, but is not limited to, novel technologies or processes may emerge during the life of this NPS.

*This helps to protect businesses and consumers, including vulnerable households, from volatile prices and, eventually, from physical interruptions to supply that might impact on essential services. But **a balance must be struck between a margin** which ensures a reliable supply of electricity and building unnecessary additional capacity which increases the overall costs of the system.*

*3.3.3 **To ensure that there is sufficient electricity to meet demand, new electricity infrastructure will have to be built to replace output from retiring plants and to ensure we can meet increased demand**. Our analysis suggests that even with major improvements in overall energy efficiency, and increased flexibility in the energy system, demand for electricity is likely to increase significantly over the coming years and could **more than double by 2050** as large parts of transport, heating and industry decarbonise by switching from fossil fuels to low carbon electricity. The Impact Assessment for CB6 shows an illustrative range of 465- 515TWh in 2035 and 610-800TWh in 2050".*

344. Whilst other supply factors can be considered to be mitigating the UK's limited generating capacity (considered later), its sustained decline alongside current levels of demand have also meant a reducing margin of generating capacity over peak demand.

345. Peak demand for electricity during the winter of 2021/22 stood at 48.6GW and was equivalent to 75.5% of UK major power producers' generation capacity (the same percentage as in 2022). Whilst peak demand (sometimes expressed as maximum load) often amounted to over 80% of total UK generating capacity in the period between 2000 and 2010, on which 75.5% is an improvement, the trend since the baseline year of 2011 represents a steadily increasing proportion of the UK's generating capacity is being taken up to meet peak demand, as illustrated in **Plate 4.4**, from 70% in 2011 to 75.5% in 2022.

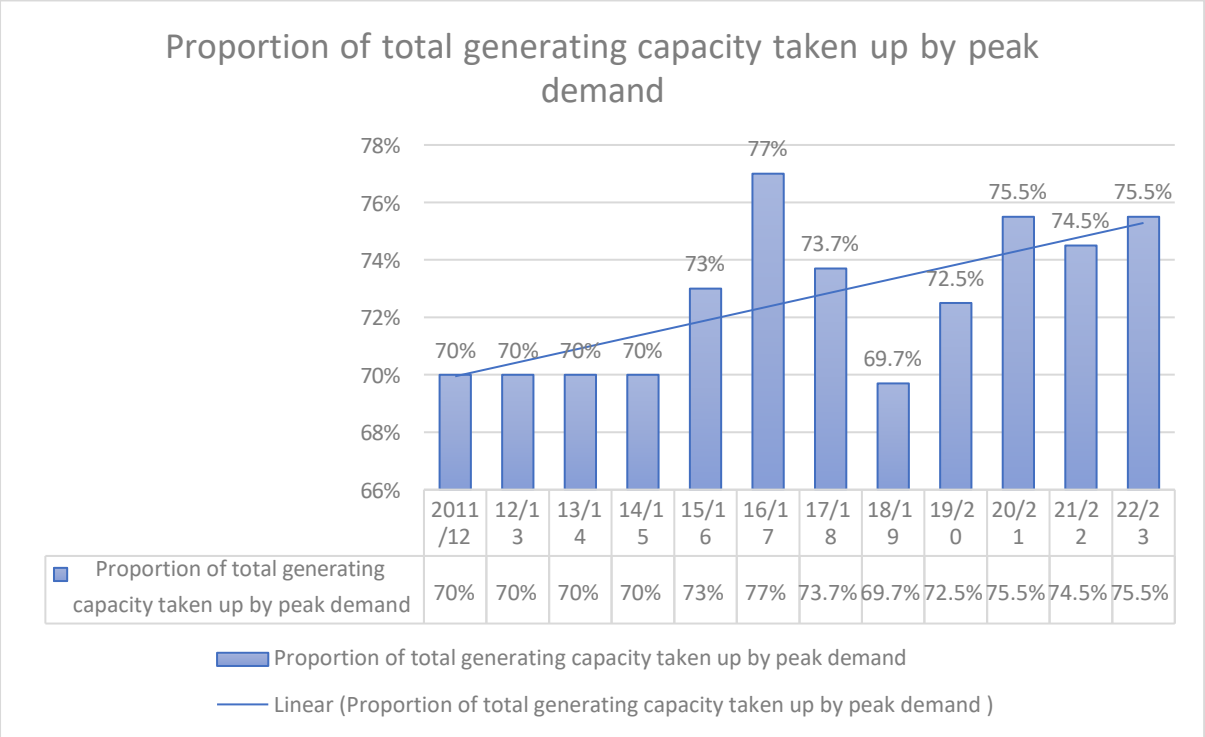

Plate 4.2 Peak demand for electricity as a proportion of total generating capacity compiled from Tables 5.7 and 5.10.A in DUKES, (DESNZ 2023)

346. There is a shrinking gap between peak demand and UK generation capacity year on year, against a backdrop of rising demand. When considered against the aspiration in established NPS Policy on Security of Supply, this trend indicates that the UK no longer has a sufficient margin over peak demand, as required by NPS Policy, unless there is a significant increase in consenting and deployment of new generating capacity. Unless this gap is reduced, there is a risk of black out during the period of peak demand.

347. In fact, electricity companies are offering financial incentives to end-users to reduce their consumption during peak periods. Schemes include dynamic pricing, Demand Flexibility Service (DFS). Domestic customers who have smart meters installed can receive half-price electricity between 11am and 4pm every Sunday. This is because demand for electricity is low on Sundays.

348. The current trend of reducing the margin between generating capacity in the UK and peak demand also presents a stark indication of the continuing importance of increasing the UK's generating capacity to meet Government Policy on the doubling of demand for electricity by 2050.

4.5.2 NPS Policy on Alternatives to New Electricity Infrastructure

349. Key NPS EN-1 Policy on alternatives to new electricity infrastructure is set out below (emphasis added).

"3.3.8 The government has ***considered alternatives to the need for new large-scale electricity infrastructure and concluded that these would be limited*** *to reducing total demand for electricity through* ***efficiency measures*** *or through* ***greater use of low carbon hydrogen*** *in decarbonising the economy;* ***reducing maximum demand through demand side response****; and* ***increasing the contribution of decentralised and smaller-scale electricity infrastructure****.*

3.3.9 Reducing total demand for energy is a key element of the government's strategy for meeting its energy objectives and we expect that increased energy efficiency measures could lead to a reduction in final energy demand from around 1550 TWh in 2019 to around 1000 TWh in 2050. However, even with a reduction in final energy ***demand the share of electricity in the system is likely to increase, potentially more than doubling by 2050*** *(see paragraph 3.3.3)".*

350. Demand Side Response (DSR) schemes enable consumers to lower or shift their electricity use at peak times, in response to external market signals, delivering cost benefits. This can be achieved either through reducing non-essential load, such as lighting, air conditioning, heating and chilling, or shifting demand by utilising existing back-up generation, such as Short Term Operating Reserve (STOR) contracts or battery storage facilities. It can also incentivise consumers to use more electricity when there is a surplus available. Subscribers receive strong financial incentives to lower their bills and reduce their carbon footprints.

351. Despite the promise of DSR in helping to smooth the peaks and troughs of electricity supply and demand, progress has continued to be slow. In order to meet the Net Zero Emissions by 2050 Scenario, 500GW of DSR needs to be brought into the global market by 2030, representing a tenfold increase in deployment over 2020 levels. An intrinsic requirement for DSR is the roll-out of smart metering. This has been slow in the UK, with just 55% of domestic meters being smart meters at the end of 2021. While DSR will inevitably be a useful technique in demand reduction, it will be many years before it makes a material difference to UK power requirements.

352. One technique for DSR is National Grid ESO's STOR contracts, which supply generation or "steady demand reduction". Around 6.5GW of capacity can be contracted through any one contracting 'window. However, since fast start up/shut down times are required (typically 20 minutes), there is a legacy of diesel generator contracts and many other contracts are with gas fired generating stations ('peaking plants'). Over-reliance on STOR contracts could put decarbonisation policy at risk and would raise questions about security of supply.

353. Another DSR could be provided where electricity is relied upon by industry or for domestic heating and is, therefore, replaced by other forms of renewable

energy, thereby reducing demand for electricity as a result. However, there are no longer statutory targets for renewable energy generation.

354. Under the EU Renewable Energy Directive, transposed into UK law, primarily through The Promotion of The Use of Energy from Renewable Sources Regulations 2011 and the Renewable Transport Fuel Obligations (Amendment) Order 2011 (collectively, the 2011 Regulations), targets were set to deliver on the Renewable Energy Directive by sourcing 15% of all energy and 10% of transport fuels from renewables by 2020.

355. In April 2022, the UK Government's BESS (HMG 2022) established further support for renewables generation. Amongst a suite of Policy changes promised to facilitate faster delivery of renewable energy, the Strategy includes the ambitions to deliver:

- A fivefold increase in solar electricity generation to 70GW by 2035, including ground-mounted and rooftop (from 14.7GW of installed solar capacity at present)
- 50GW of offshore wind electricity generation by 2030 (from 12.7GW installed offshore wind at present)
- 10GW low carbon hydrogen production capacity by 2030 (NB. This is not a target for electricity generation, but production of hydrogen for use in multiple sources)

356. Whilst a good deal of progress has been made in renewable electricity generation, progress of total renewable energy has been slower. Renewable electricity generation capacity has grown fivefold since 2010, driven by the successful deployment of wind, solar and biomass. As part of this, the UK had 13.8GW of operational offshore wind electricity generation by the end of 2022, up from just over 1GW in 2010. As stated in BEIS, 2023: *"Renewable generation increased by 10% in 2022 to a new record of 135.0TWh. This was just 0.5% higher than the previous record set in 2020 when unusually favourable weather conditions hit the UK. The key driver in 2022 was new capacity and an improvement in weather conditions compared to 2021."*

357. In contrast, total renewables accounted for just 14% of total energy consumption in 2022, still falling short of the 15% target (however up from 13.2% in 2021) (BEIS, 2023). The minimum need for the delivery of renewable energy (as opposed to renewable electricity generation) established in the 2011 Regulations has therefore not yet been met.

358. Given the limited role that demand side measures and greater use of hydrogen have been playing, as set out above, the conclusion in this NPS EN-1 Policy on the need for large scale generation is afforded even greater emphasis and weight and the Project is therefore essential.

4.5.3 NPS Policy on the Need to Deliver Affordable Decarbonisation

359. Key NPS EN-1 Policy on delivering affordable decarbonisation is set out below (emphasis added).

"3.3.13 The Net Zero Strategy sets out the government's ambition for increasing the deployment of low carbon energy infrastructure consistent with delivering our carbon budgets and the 2050 net zero target. This made clear the ***commitment that the cost of the transition to net zero should be fair and affordable****.*

3.3.14 Value for money assessments are not required on applications for development consent for energy infrastructure projects. However, government will work to ensure there are market frameworks which promote effective competition and ***deliver an affordable, secure and reliable energy system*** *and government support for specific technologies and projects will be dependent on clear value for money for consumers and taxpayers".*

360. In addition, paragraph 3.3.20 states that:

"Wind and solar are the lowest cost ways of generating electricity*, helping reduce costs.... a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar"*

361. The cost of wind energy (per MWh) has fallen significantly over the last 20 years. The levelised cost of electricity from offshore wind is now circa £44/MWh and onshore wind is £38/MWh (DESNZ 2023)

362. This is a huge fall, in a fairly short period of time, with costs having been as high as £150/MWh

363. AR4 of the UK Government's offshore wind CfD auction came in as low as £37.35/MWh, based on 2012 prices and at a time when TCE's lease costs are increasing significantly. The 8GW potential of AR4 and AR3 generates almost £900m per year in option fees to the public purse (Offshorewind.biz 2023).

364. These increased costs aren't restricted to seabed leasing fees. The rising costs of materials and labour have also hit the business cases for winning Round 3 bids, with Vattenfall shelving its Norfolk Boreas project little more than a year after the project was awarded a CfD contract. The Swedish project developer explained that the electricity price was locked in before the full effects of rocketing inflation, partly caused by the conflict in Ukraine, impacted their supply chain, with 40% increases in construction costs being reported. Ørsted has also expressed concerns about delivery of their Hornsea 3 project, due to construction inflation.

365. Bidding rounds for offshore wind contracts are now held annually, with winning bidders being awarded 10-year CfDs. The doubts surrounding winners in

earlier rounds, as outlined above, were a portent to the failure of AR5, held in 2023. Market commentators, such as Cornwall Insight, pointed to the fact that the AR5 Administrative Strike Price (ASP) was held at the same level as AR4 (£44/MWh). The UK's persistent inflation left developers unable to recoup their costs and the round concluded with no bids for offshore wind. This is a very significant event in the development of the UK offshore wind market and marks the point at which the ever-falling costs of project development bottomed out and began rising again. Given the continued efficiencies of ever-larger turbines, there is no question of a total rebound in costs to those seen a decade ago, but the cost of offshore wind energy has risen to reflect the significant increase in construction costs seen in the last 18-24 months.

366. As a result of the failure of AR5, the upcoming AR6 auction, due to open in March 2024, will see the maximum ASP increase by 66% for offshore wind projects (from £44/MWh to £73/MWh) and by 52% for floating offshore wind projects (from £116/MWh to £176/MWh) - in 2012 prices. Offshore wind will also be allocated its own fund within AR6. It is hoped that these adjustments to the bidding system will result in a more successful AR6, but it does not alter the fact that the undeveloped projects from previous rounds may be delayed or cancelled as a result of cost pressures. This, together with the failure of CfD AR5 to elicit any bids for offshore wind projects, sets back the UK's task of making the technology the country's electricity mainstay.

367. In order to avoid any further damage to its continuing clean energy ambitions, the UK will need to approach these as of yet undeveloped projects very carefully. In order to ensure that these projects are built and connected, their now marginal business cases, cast in a different economic era, albeit one set just a few years ago, dictate that design decisions must be extremely cost-conscious. Equally, the extent to which environmental benefits can be offered will need to be set in the context of continuing focus on minimising project costs. Any delay to the successful delivery of projects awarded CfDs in earlier rounds will only serve to compound the brake on UK ambitions imposed by the failure of AR5.

4.5.4 NPS Policy on Need and the Role of Wind and Solar

368. Key NPS EN-1 Policy on the role of wind and solar is set out below (emphasis added).

"3.3.20 ***Wind and solar are the lowest cost ways of generating electricity****, helping reduce costs and providing a clean and secure source of electricity supply (as they are not reliant on fuel for generation). Our analysis shows that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar.*

3.3.21 As part of delivering this, UK government announced in the British Energy Security Strategy an ambition to ***deliver up to 50 gigawatts (GW) of***

***offshore wind by 2030**, including up to 5GW of floating wind, and the requirement in the Energy White Paper for sustained growth in the capacity of onshore wind and solar in the next decade.*

3.3.22 However, it is recognised that ensuring affordable system reliability, today and in the future, means wind and solar need to be complemented with technologies which supply electricity, or reduce demand, when the wind is not blowing, or the sun does not shine.

*3.3.23 Applications for **onshore wind of all sizes should be consented outside of the Planning Act 2008 process**, unless the Secretary of State directs otherwise under Section 35 of the Planning Act 2008"*

369. The growth in deployment of offshore wind in recent years, as set out in **Section 4.3.3**, supports the likelihood of continued growth in offshore wind deployment, in line with the NPS EN-1 Policy scenario of a doubling of demand for electricity by 2050. However, the likelihood of onshore wind making any significant contribution to the need for renewable energy is unlikely, given the Planning Policy requirements applying to any such development in England. Delivery has been hampered significantly by the removal of onshore wind from the DCO regime in 2015 and by Policies added to the NPPF in the same year (as shown in **Plate 4.5**).

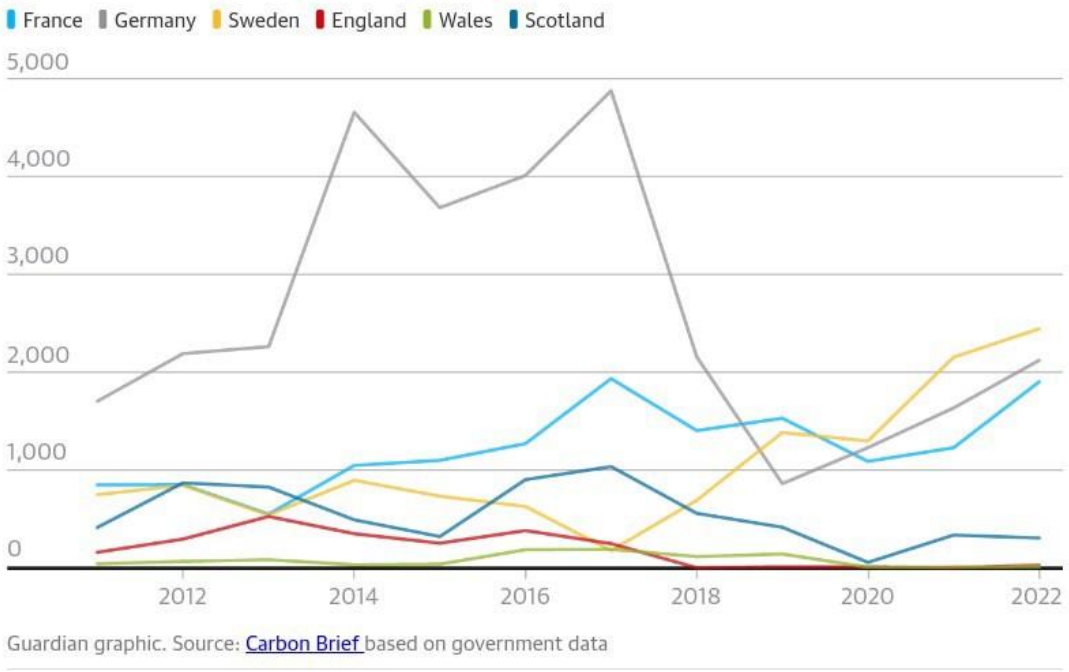

Plate 4.3 Onshore wind generating capacity in UK and selected EU countries added 2012-2022, source: Carbon Brief and The Guardian (2023) MW added per year

370. In September 2023, the NPPF policies were modified, but remain restrictive, with footnote 58 of the NPPF stating:

"Except for applications for the repowering and life-extension of existing wind turbines, a planning application for wind energy development involving one or more turbines should not be considered acceptable unless it is in an area identified as suitable for wind energy development in the development plan or a supplementary planning document; and, following consultation, it can be demonstrated that the planning impacts identified by the affected local community have been appropriately addressed and the proposal has community support."

371. According to the Renewable Energy Planning Database (DESNZ, 2024a) data entries since the policy change in September 2023 and at the time of writing showed that, in England, a total of only eight onshore WTGs have been granted consent, one has been refused permission and applications for a further eight are awaiting determination.

372. Whilst there has been more development of onshore wind in the other constituent parts of the UK, the rate of growth has dwindled to well below 0.5GW in each of the last three years, from around 1.5GW per year in the three years from 2011, when total onshore wind generation capacity stood at 5GW. This compares with 2022's total of 15GW (generally based on progress in UK countries other than England), though this looks likely to be shortly overtaken by the capacity of offshore wind, which is at 15GW capacity, with a further 19.1GW of capacity consented or under construction. Despite some strong growth early on in this sector, rates of increase do not match those in the offshore wind sector, nor are the planning policies, targets or incentives in

place to allow it to play a greater role. It is also worth noting that offshore wind projects, both in terms of the number of WTGs and their size, tend to be significantly larger than their onshore counterparts and are therefore capable of making a major contribution to government targets on carbon reduction and energy security.

373. Onshore wind will, therefore, not significantly help to meet the gap in capacity required to meet the NPS EN-1 Policy scenario of a doubling of demand for electricity.

4.5.5 NPS Policy on Need and the Role of Electricity Storage

374. Key NPS EN-1 Policy on the role of electricity storage is set out below (emphasis added).

"3.3.25 Storage has a key role to play in achieving net zero and providing flexibility to the energy system, so that high volumes of low carbon power, heat and transport can be integrated.

3.3.26 Storage is needed to reduce the costs of the electricity system and increase reliability by storing surplus electricity in times of low demand to provide electricity when demand is higher. There is currently around 4GW of electricity storage operational in GB, around 3GW of which is pumped hydro storage and around 1GW is battery storage.

3.3.28 Whilst important in providing balancing services, many of the ***storage facilities currently being deployed provide storage over a period of hours but cannot cost effectively cover prolonged periods*** *of low output from wind and solar. There are a range of storage technologies that may be able to provide storage over longer periods of low wind and solar output (e.g. days, weeks or months) but many of these technologies are not yet available at scale or have an upper limit on deployment due to geographical constraints".*

375. Prior to the development of battery storage at scale, pumped storage capacity, such as at Cruachan Power Station, in Scotland, was the only commercial scale storage solution available. 3GW of pumped storage capacity existed in 2011 and a further 2.4GW of pumped storage has now been granted consent, but will take a number of years to come on stream (IHA, 2021), such that this will not appreciably contribute to meeting the doubling of demand scenario established in NPS EN-1 Policy.

376. According to RenewableUK, battery storage had grown to 3.5GW in the UK by December 2023 (RenewableUK, 2023), with a further 24.5GW consented. However, given that battery storage capacity is subject to de-rating[6] down to

[6] 'De-rating' is the application of a factor to all forms of electricity generation to represent the assumption that 100% of capacity will not be available 100% of the time, The factors for wind and solar are as in the Electricity Act 1989. For battery storage see National Grid 2017 Duration-Limited Storage De-Rating Factor Assessment –

as little as 20% of maximum output, battery storage cannot alone make an appreciable difference of the scale required by NPS EN-1 which can be made by offshore wind energy generation, such as this Project. Importantly, as recognised in NPS EN-1 (paragraph 3.3.28), batteries are designed to provide very short-term capacity, often to ensure system frequency is maintained or balance supply and demand minute-by-minute or hour-by-hour, rather than longer-term supply over days and weeks.

377. Prior to the recent development of battery storage, pumped storage capacity was previously the only commercial scale storage solution available. DUKES, 2023 reports that 2.9GW of pumped storage capacity was available in 2022. Evidence presented to a March 2023 House of Commons Select Committee, by the International Hydropower Association (IHA, 2022), claimed that in addition *"2.4GW having received planning permission"*, which will, however, take a number of years to come on stream, such that this will not appreciably contribute to meeting the doubling of demand for electricity in the NPS EN-1 Policy scenario.

378. Storage has, therefore, not developed in any significant proportions and has not obviated the need for additional large-scale generation in NPS EN-1.

4.5.6 NPS Policy on Need and the Role of Combustion Power Stations

379. Key NPS EN-1 Policy on the role of combustion power stations is set out below (emphasis added).

"3.3.36 Combustion power stations use fuel for generation. This means that it is possible for them to provide dispatchable generation when the output from intermittent renewables is low, but they are dependent on the supply of fuel for generation. ***Most forms of combustion power also produce residual emissions of greenhouse gases, and where this is the case, their use will need to be limited over time unless they can decarbonise".***

380. Total fossil fuel generation capacity has declined steeply in recent years. The closure of many coal-fired generating stations has seen 2011 capacity of 28GW fall to 5GW in 2022. Oil-fired capacity has fallen from 5GW in 2010 to 1GW in 2022. Capacity to generate electricity from gas has, though, remained fairly stable, at around 32-33GW in 2022, the same as there was in 2010 (DESNZ, 2023, Table 5.12).

381. Despite this reduced capacity, and a continued reduction in the proportion of electricity generated from fossil fuels, this overall trend was interrupted in the

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Final Report
https://www.emrdeliverybody.com/Lists/Latest%20News/Attachments/150/Duration%20Limited%20Storage%20De-Rating%20Factor%20Assessment%20-%20Final.pdf

year from 2021 to 2022, where generation from fossil fuels actually increased. As set out in *"Electricity generation and supply in Scotland, Wales, Northern Ireland, and England, 2018 to 2022"* (DESNZ 2023c).

"UK fossil fuel generation increased by 0.9 per cent between 2021 and 2022, though was 11 per cent below 2018 levels and a lower share of generation at 40.8 per cent, a reduction of 1.8 percentage points on 2021. The year-on-year increase in fossil fuel use reflects higher total generation including generation to meet demand for exports".

382. Given the above report's findings demonstrate that reliance on interconnectors can mean an increase in use of fossil fuels, contrary to NPS EN-1 Policy, and the increase in reliance on fossil fuel generation generally in 2021-22 combine to emphasise the need for domestic offshore wind and renewable electricity generation capacity through developments such as the Project.

4.5.7 NPS Policy on Need and the Role of Interconnectors

383. Key NPS EN-1 Policy on the role of interconnectors is set out below (emphasis added).

"3.3.32 Interconnection across national borders has an essential role in delivering a secure, low carbon electricity system at low cost. The UK recognises the importance and benefits of increasing levels of interconnection and has an ambition to realise at least 18 GW of operational interconnector capacity by 2030.

3.3.34 Interconnection provides access to a diverse pool of generation, enabling the import of cheaper electricity, while also providing a route for electricity export. ***Interconnectors provide the system with additional flexibility, reducing the curtailment of renewable energy, and can also provide a range of ancillary services, such as voltage and black start services"***

384. The establishment of more interconnectors is a key mitigating factor in the decline of UK generating capacity explained in **Section 4.3.3** above. They allow rapid recovery where black start is required. Black start is the procedure to recover from a total or partial shutdown of the transmission system, due to loss of generation, which has caused an extensive loss of supplies.

385. As noted in the quotation from *"Electricity generation and supply in Scotland, Wales, Northern Ireland, and England, 2018 to 2022"* (DESNZ 2023c) in **Section 4.5.6** above, however, the UK became a net exporter of electricity in 2022, due to outages in the French nuclear fleet, meaning that interconnectors can serve to drain available capacity away, as well as to support supply. For the year 2022, the UK has nine international interconnectors, an increase of two on the previous year, with a total capacity of 8.94GW (DUKES, 2023 Table 5.13a). NPS EN-1 anticipates this will grow to 18GW by 2030.

386. NPS EN-1 policy is clear, however (paragraph 3.3.6), that "*neither of these technologies, as with DSR, are sufficient to meet the anticipated increase in total demand, and so cannot fully replace the need for new generating capacity*."

387. Reliance on global markets for imported energy would also leave the UK vulnerable to spikes in world energy market prices, political pressure, potential physical supply disruptions and the knock-on effects of supply challenges in other countries. For example, a significant proportion of France's nuclear plants closed during 2022/23, due to planned maintenance. Damage to facilities and very hot weather meant that the UK burned more gas in power stations to supply France via 3GW of electricity interconnectors, so whilst interconnectors can help improve the UK's energy security, they can also place additional demand burden on the UK, when other countries need them for their own security.

388. In addition, with regard to one of the other central tenets of NPS EN-1 policy, increased reliance on imported electricity considered above, runs counter to the Security of Supply Policy Objective. This is illustrated by concerns around reliance in Europe on imported fuels in general, and Russian fuel imports in particular, the constraining of which has led to significant global price rises for consumers and by NPS EN-1 Policy, referencing the invasion of Ukraine, which states (emphasis added):

"2.5.5 However as global energy costs rise due to demand soaring as the economy reopened after COVID-19 and the Russian invasion of Ukraine, ***security of supply requires a greater focus on domestic energy production****".*

389. Security of supply in this context is particularly important at a time when the margin of the UK's generating capacity over peak demand is diminishing, which is a cause for concern and runs counter to NPS EN-1 Policy on generating capacity as a whole.

4.5.8 NPS Policy on Need and the Role of Nuclear

390. Key NPS EN-1 Policy on the role of nuclear is set out below.

"3.3.51 Nuclear fission already provides the UK with continuous, reliable, safe low carbon power. Nuclear plants produce no direct emissions during operation and have indirect life cycle GHG emissions comparable to offshore wind. Power stations with an estimated lifetime of 60 years provide large amounts of low carbon electrical power, using a relatively small amount of land. Nuclear, alongside other technologies could also offer broader system benefits, such as low carbon hydrogen production through electrolysis, or low carbon heat. In addition, nuclear generation provides security of supply benefits by utilising an alternative fuel source to other thermal plants, with a supply chain independent from gas supplies.

3.3.52 Our analysis suggests additional nuclear beyond Hinkley Point C will be needed to meet our energy objectives. Nuclear technology is developing and opportunities for flexible use may grow as the energy landscape evolves. The role of nuclear power could be fulfilled by large-scale nuclear fission, Small Modular Reactors, Advanced Modular Reactors, and fusion power plants.

3.3.53 As outlined in the British Energy Security Strategy the government is increasing our plans for deployment of civil nuclear power by 2050s

391. Hinkley Point C (HPC) is the first new civil nuclear plant to be built in the UK in a generation. At 3.2GW, it will provide a substantial input to the National Grid. The Final Investment Decision (FID) was taken by its primary developer, EDF, in July 2016. Construction began in March 2017, but the project has been beset by delays and cost increases almost from the outset. The original commissioning date, as set in 2016, was 2026. This was delayed to 2027 and, more recently, delayed again, with an expected window of 2029-2031 before any electricity is generated. Given that the Longstop Contract Date (LCD) was recently pushed out from 2033 to 2036, it is entirely possible that the 2031 ambition will not be achieved either.

392. Experience elsewhere of the European Pressurised Reactor (EPR) type (developed in France by Framatome and EDF), being installed at HPC, suggests that significant delays ought to be factored into the expectation of electricity production. The EPR at Flamanville, in France, began construction in 2007 and is still not fully operational, though it is hoped that electricity will begin to flow in 2024. The EPR at Olkiluoto, Finland, was similarly very slow to come on stream, with first power not being produced until 18 years after construction began. Even where an EPR has entered service (Taishan, China and Olkiluoto, Finland being the only examples), early operation has been far from smooth. At Taishan 1, damage to fuel rods was noted shortly after grid connection, followed by a shutdown of over a year, while the cause of the damage was investigated and the faulty fuel rods replaced. At Olkiluoto, cracked impellers caused a 7-month shutdown, just a month into operation. The six EPRs operational or under construction are likely to be the only examples of their breed with their developers moving towards a new version of the technology – the EPR2.

393. Prudent energy planning, in the context of the chequered history of the delivery and initial operation of the EPR, would suggest that grid connection for Unit 1 at HPC is unlikely within the next ten years.

394. Now in receipt of a DCO, Sizewell C would be next in line as a UK civil nuclear development. The ballooning cost of HPC, now forecast to cost over £46bn, more than treble the original estimate, must place some doubt on whether Sizewell C will achieve a positive FID. The delays to HPC, and the likelihood that any eventual project at Sizewell C will not see a grid connection until the 2040s, leaves a large void, which new nuclear capacity had been planned to

fill. This gap will therefore now need to be quickly filled by alternative technologies, such as offshore wind in general and including the Project in particular.

4.5.9 NPS Policy on Need and the role of Hydropower and Marine Technologies

395. Key NPS EN-1 Policy on Need and the role of hydropower and marine technologies is set out below (emphasis added):

*3.3.54 Hydropower can provide relatively predictable and, in some cases, flexible low carbon generation but total capacity is limited by the topography of the UK. Wave and tidal can also provide relatively predictable low carbon power and could play a role in future if their costs can be reduced. However**, total capacity is limited for tidal power and wave power is very closely correlated with wind**.*

396. Hydropower generation in the UK has grown marginally from around 1.6GW of capacity in 2011 to 1.8GW capacity in 2022, but the rate of growth has slowed significantly to only one additional MW of capacity added from 2021 to 2022. (DUKES, 2023 Table 5.12).

397. Tidal stream and wave power generation have yet to yield more than negligible levels of generating capacity in the UK, amounting to 4MW of capacity in 2011 and remaining at only 22MW between 2019 and 2022 (DUKES, DESNZ 2023).

398. Whilst the UK has potential for hydropower, given it has the second highest tidal range in the world, no development of significant capacity to match that of other technologies is within sight. The Tidal Lagoon Swansea Bay project (granted development consent in 2015) would have generated 350MW, with subsequent lagoons by the same promoter proposed to generate upwards of 1GW, each located around the Welsh coastline. However, once the project failed to receive the level of Government financial support it required in the CfD process, the initiatives did not proceed to consenting stage. Whilst other sites have been mooted, no major tidal range power station has attempted to gain DCO consent since.

399. While tidal range power can be released to generate electricity usually at any point over a twelve-hour period, and is classed as reliable and regular generation, NPS policy (paragraph 3.3.56) identifies that it "*may not always be able to provide electricity when there is low output from wind and solar*" and also identifies current cost as reasons that technologies such as offshore wind, will need to be taken forward.

400. Hydropower and marine technologies, according to current evidence, therefore, will not make a significant contribution to increasing generating capacity to meet the NPS EN-1 Policy scenario of a doubling of demand for

electricity by 2050. By contrast the Project will generate more than a quarter of the generation capacity of this entire technology sector deployed across the UK.

4.5.10 The need for Electricity Generating Capacity Including Critical National Priority Projects

401. Key NPS EN-1 Policy on the need for electricity generating capacity generally and on the critical National Priority of offshore wind generation is set out below (emphasis added):

3.3.58 Given the urgent need for new electricity infrastructure and the time it takes for electricity NSIPs to move from design concept to operation, ***there is an urgent need for new (and particularly low carbon) electricity NSIPs to be brought forward as soon as possible****, given the crucial role of electricity as the UK decarbonises its economy.*

3.3.62 Government has concluded that there is ***a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure****. Section 4.2 identifies which energy generating technologies are low carbon and are therefore CNP infrastructure.*

3.3.63 Subject to any legal requirements, the urgent need for CNP Infrastructure to achieve 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. ***Government strongly supports the delivery of CNP Infrastructure and it should be progressed as quickly as possible.***

Section 4.2 states:

4.2.4 Government has therefore concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure.

*4.2.5 This does not extend the definition of what counts as nationally significant infrastructure: the scope remains as set out in the Planning Act 2008****. Low carbon infrastructure for the purposes of this policy means:***

• ***for electricity generation, all onshore and offshore generation*** *that does not involve fossil fuel combustion (that is, renewable generation, including anaerobic digestion and other plants that convert residual waste into energy, including combustion, provided they meet existing definitions of low carbon; and nuclear generation), as well as natural gas fired generation which is carbon capture ready....*

4.2.7 The CNP policy does not create an additional or cumulative need case or weighting to that which is already outlined for each type of energy infrastructure. The policy applies following the normal consideration of the need case, the impacts of the project, and the application of the mitigation

hierarchy. As such, it is ***relevant during Secretary of State decision making and specifically in reference to any residual impacts*** *that have been identified. It* ***should therefore also be given consideration by the Examining Authority*** *when it is making its recommendation to the Secretary of State.*

4.2.8 ***During decision making, the CNP policy will influence how non-HRA and non-MCZ residual impacts are considered in the planning balance****. The policy will therefore also influence how the Secretary of State considers whether tests requiring clear outweighing of harm, exceptionality, or very special circumstances have been met by a CNP Infrastructure application. Further detail is provided in paragraphs 4.2.15 to 4.2.17, and Figure 2.*

4.2.9 During decision making, the ***CNP policy also explains the Secretary of State's approach to HRA derogations and MCZ assessments****. Specifically, the policy explains how the alternative solutions and IROPI tests are considered by the Secretary of State. Further detail is provided in paragraphs 4.2.18 to 4.2.22, and Figure 3".*

402. It follows that the new NPS EN-1 Policy consideration applies and that there is therefore a CNP for the Project to be developed, regardless of the Project's other characteristics or size etc. In fact, NPS Policy also makes clear (in paragraph 3.2.8 considered below) that "The Secretary of State is not required to consider separately the specific contribution of any individual project to satisfying the need established in this NPS".

403. This CNP will, therefore, be applied in the planning balance and with regard to the effects of residual impacts, as well as informing the application of tests under the HRA, including the establishment of IROPI.

404. The Project, therefore, is established by NPS EN-1 Policy as being of CNP in UK policy terms under the PA2008.

4.5.11 Need in Decision Making

405. Key NPS EN-1 policy on considerations of Need in decision making on DCO Applications in relation to the urgency of that need, the substantial weight to be attributed to that need, and to the fact that there is no requirement to consider the specific contribution towards meeting that need, is covered in full in the **National Policy Statements Accordance Report** (Document Reference 4.14).

5 Mitigating the Development

406. The Requirements in the **Draft DCO** control how the development would be carried out, for example through the management plans to be approved and implemented, timings and time limits and securing the mitigation listed in the **Schedule of Mitigation** (Document Reference 5.5). Requirements and how they should be drafted is covered in NPS EN-1.

407. The draft DCO Requirements are considered below.

5.1 Development Consent Order Requirements and Planning Policy

408. Paragraph 4.1.16 of NPS EN-1, the NPPF and the Government's national Planning Practice Guidance (PPG) establish the need for conditions of any planning permissions to meet the following requirements:

"…necessary, relevant to planning, relevant to the development to be consented, enforceable, precise, and reasonable in all other respects".

409. Under the PA2008, conditions of development consents take the form of Requirements within the DCO. Requirements set out in Schedule 2 of the **Draft DCO** meet the requirements set out in paragraph 4.1.16 of Overarching Energy NPS EN-1.

410. The tests and how they have been met in the preparation of the draft DCO Requirements are considered below.

5.2 Necessary

411. All requirements as drafted in the application **Draft DCO** are necessary because they give effect to the need to secure mitigation measures or to meet other regulatory or policy requirements.

412. Draft Requirement 1 specifies the time limit for commencing the authorised development as seven years from the date on which the Order comes into force. A time limit of seven years follows the approach taken in Teesside A and B and Hornsea 3 and, most recently, in The Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024 and is considered appropriate and necessary for the Project, given its nature as a co-ordinated Project with other projects.

413. Draft Requirement 2, specifying the detailed design parameters is necessary to ensure the development will remain within the parameters of the Project, which form the basis for the EIA as set out in the ES.

414. Draft Requirement 3 on Aviation Safety is necessary to give effect to the need for safety lighting, as specified in the relevant legislation or determined as necessary by defence and aviation bodies.

415. Draft Requirements 4, 5, 6 and 7 are necessary to ensure no interference with military surveillance, radar communication or the flight instruments of aviators.

416. Draft Requirement 8 is necessary because it requires the submission of a decommissioning plan, as required by the Energy Act 2004.

417. Draft Requirements 9 and 10, require the submission of a PATP and a Skills and Employment Plan and are necessary to give effect to mitigation, which itself is necessary by virtue of the EIA Regulations 2017, and to give effect to other legislative requirements.

418. Draft Requirement 11 is necessary to ensure approvals from the SoS are provided in writing.

419. Draft Requirement 12 is necessary to ensure construction of the Project is carried out in accordance with the approved details established within the **Draft DCO** (Document Reference 3.1).

5.3 Relevant to Planning

420. All draft Requirements reflect and secure relevant planning policy, guidance or legislative provisions applicable under PA2008 and are, therefore, all relevant to planning.

5.4 Relevant to the Development to be Permitted

421. All of the draft DCO Requirements directly secure the delivery of elements and aspects of the Project and are therefore relevant to it.

5.5 Enforceable

422. Draft Requirements within the **Draft DCO** are enforceable, as they set temporal and dimensional parameters and/or include compliance conditions, including requiring the submission of management plans, schemes and other matters and further include implementation clauses and are, therefore, all enforceable.

5.6 Precise

423. All application draft Requirements are precisely worded and specify the exact nature of the submission to be made and/or the precise limits with which compliance is required.

5.7 Reasonable

424. All application draft Requirements are considered as acceptable in terms of being reasonable, since they, or similar requirements, have been made as part of other Orders.

6 Balancing Considerations and Overall Conclusions

425. This **Planning Statement** (Document Reference 4.8) has outlined the proposals for the development of the Project, as set out in the DCO Application, provided background and context of the development, as set out the need for the Project, with reference to the aspects of need established by NPS policy and outlined the legal and policy context within which the Application is to be examined and decided, including how the Application is in accordance with the relevant policy, as set out in the Energy NPSs. This **Planning Statement** (Document Reference 4.8) should be read in conjunction with the **NPS Accordance Report** (Document Reference 4.14) and the **Marine Plan Policy Review** (Document Reference 4.7) which set out in more detail how the Project is in accordance with policies in NPSs and in MPs.

426. Section 104 of PA2008 makes clear that the SoS *"must decide the application in accordance with any relevant national policy statement",* except to the extent that the specified exceptions apply. Therefore, subject to the exceptions in Section 104 and as stated in paragraph 4.1.3 of NPS EN-1 *"Given the level and urgency of need for infrastructure of the types covered by the energy NPSs set out in Part 3 of this NPS, the Secretary of State will start with a* ***presumption in favour of granting consent*** *to applications for energy NSIPs."* (emphasis added).

427. The presumption in NPS policy, therefore, is in favour of applications that accord with any relevant NPSs and the key test is to assess, on the balance of probabilities, whether the application is in accordance with the relevant NPSs and should, therefore, be consented, unless the specified exceptions (as set out above) apply.

428. The accordance of the Project with the relevant NPSs is established in the **National Policy Statements Accordance Report** (Document Reference 4.14).

429. Furthermore, NPS policy in paragraph 4.2.4 of NPS EN-1 is that *"Government has therefore concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure"* specifically including offshore wind projects.

430. The Project and its Objective 1 *"**Decarbonisation:** generate around 480MW of low carbon electricity from an offshore windfarm, in support of the Net-Zero by 2050 target and UK Government ambition to deliver 50GW of offshore wind by 2030"* accords with NPS EN-1 policy and:

- Directly addresses the "**urgent need for new (and particularly low carbon) energy** NSIPs to be brought forward as soon as possible, given

the crucial role of electricity as the UK decarbonises its energy sector" (paragraph 3.3.58)

- Meets **"our target to cut GHG emissions to net zero by 2050**, including through delivery of our carbon budgets and Nationally Determined Contribution" (paragraph 2.3.3)
- **Reduces greenhouse gas emissions through displacement from fossil fuel generating stations of approximately 36 million tonnes CO_2e** from traditional non-renewable fuels (1.03mt CO_2e per year), contributing to meeting national and international targets on carbon dioxide reduction in line with the requirements of the CCA 2008 (2050 Target Amendment) Order 2019

431. The Project and its Objective 2 *"**Security of supply:** Provide significant electricity generating capacity within the UK to support commitments for offshore wind generation and security of supply"* accords with NPS EN-1 policy by:

- Making a meaningful contribution to the *ambition to deliver up to **50GW of offshore wind by 2030**"*(paragraph 5.5.4), with approximately 480MW of electricity generating capacity**, 1.4%, of the shortfall** of 36GW of generation capacity, which needs to be deployed in the next 5 years if the NPS Policy ambition on Security of Supply is to be met and by **powering over half a million, and 2% of all UK households,** (DLUHC 2023) per annum
- Addressing the importance *"that our **supply of energy always remains secure**, reliable, affordable"*, as set out in NPS EN-1, which sets out Policy that sees *"**offshore wind as the backbone of electricity generation"*** (paragraphs 2.1.6 and 5.5.23) across all its scenarios
- Contributing to the NPS EN-1 scenario that UK demand for electricity ***"could more than double by 2050"*** and that ***"we will need a fourfold increase in low carbon generation"*** (paragraph 3.3.3 and 3.3.16) by delivering an increase of 1.6% of the UK's current 30.5GW of low carbon generating capacity
- Contributing to The Promotion of the Use of Energy from Renewable Sources Regulations 2011 and NPS EN-1 (paragraph 3.4.5) **requirement for the UK to meet a target of 15 per cent of total energy consumption from renewables**, in the context of 14 per cent of total energy consumption being from renewables in 2022 (Table 6.5a DUKES, DESNZ 2023)

432. The Project and its Objective 3 *"**Affordability**: Maximise generation capacity at low cost to the consumer from viable developable seabed within the constraints of available sites and grid infrastructure"* accords with NPS EN-1 policy by:

- **Reusing previously developed seabed** relatively close to shore, minimising environmental impacts and maximising efficiency to deliver

competitive pricing in a way that *"supports the efficient working of the market so as to **ensure competitive prices for consumers**"* (paragraph 2.6.2)

- Delivering offshore wind as an affordable source of energy alongside remaining fossil fuel use and solar generation, to deliver a diverse and affordable energy mix for the UK as a whole, ensuring that *"**diversity of supply can aid in ensuring affordability** for the system overall"* (paragraph 2.5.)

433. The Project and its objective 4 *"**Coordination**: Coordinate and coexist with other activities, developers and operators to use previously developed seabed to deliver the Project and its skills, employment and investment benefits in the Local Economic Area",* accords with NPS policy by:

- The co-ordinated sharing of a cable connection corridor and landfall location with other projects, ensuring *"that for regions with multiple windfarms a more **co-ordinated approach will be delivered**"* (paragraph 3.3.71 of NPS EN-1)
- Reusing previously developed seabed and sharing of cable connection corridors and landfall locations *"to **work collaboratively with those other developers and sea users on co-existence/co-location** opportunities [and]… to find solutions **to facilitate greater coexistence/co-location**"* (paragraph 2.8.48 of NPS EN-3)
- Being in accordance with analogous policy that *"the **re-use of previously developed** land for new development can make a major contribution to sustainable development"* (paragraph 5.11.3 of NPS EN-1)

And further accords with NPS policy that *"the Secretary of State should **take into account … potential benefits including its contribution to meeting the need for energy infrastructure, job creation, reduction of geographical disparities, environmental enhancements, and any long-term or wider benefits**"* (paragraph 4.1.5 of NPS EN-1), by:

- Providing power for **half a million UK households**, equivalent to 43% of the number of households in the LEA
- Creating up to **4,870 years of employment across the UK** during construction and **190 full-time equivalent jobs in the UK during the operational phase**
- **Investing an estimated overall £1,325 million** construction cost (in current pricing) of which 42% is within the UK and £16 million in the LEA
- Maximising local skills and employment opportunities, through the **Skills and Employment Plan** being developed in consultation with local authorities, secured by a Requirement in the **Draft DCO** (Document Reference 3.1), and

- Delivering **Environmental Net Gain benefits**, as well as **contributing to the mitigation of climate change and thus the effects it is having on biodiversity** in the UK

434. Overall, there is a Critical National Priority, in NPS terms, for the Project which would make a significant contribution to decarbonising the UK's energy system to achieve NPS Policy target to meet Net Zero by 2050, and to the UK's contribution to global efforts to reduce the effects of climate change, and would represent a meaningful contribution achieving security of UK energy supplies by **providing approximately 1.4% of the UK's current shortfall in meeting the NPS policy ambition for offshore wind electricity generation of 50GW of capacity by 2030**. Furthermore, the Project would have a direct positive benefit by providing around 480MW of renewable energy, equivalent to securing energy supply for approximately half a million UK households, equivalent to 43% of the households in the LEA, and would generate over 4,000 permanent and temporary jobs and £1,325million of investment.

435. For all the above reasons therefore, the Examining Authority and the SoS can conclude (under Section 104 of the PA2008) that the Project would be in accordance with relevant NPSs, as established in the **National Policy Statements Accordance Report** (Document Reference 4.14), and legislation, would bring significant benefits under a range of national, international and local policy considerations, and:

- would not lead to the UK being in breach of any of its international obligations (subsection 4);
- would not lead to the SoS being in breach of any duty imposed on the SoS by or under any enactment (subsection 5);
- would not be unlawful by virtue of any enactment (subsection 6);
- can be satisfied that the above benefits of the proposed development outweigh any adverse impacts (subsection 7);
- that there is no condition prescribed for deciding the application otherwise than in accordance with he relevant NPSs (subsection 8), and that under the terms of Section 104 of the PA2008, the Project should therefore be **consented**.

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