



# Chapter 1

## Introduction

GoBe Consultants Ltd.

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## List of Acronyms

Abbreviation	Term
AA	Appropriate Assessment
ABZ	Aberdeen International Airport
AC	Alternating current
ACC	Area Control Centre
ADD	Acoustic Deterrent Device
ADR	Air Defence Radar
AEZs	Archaeological Exclusion Zones
AfL	Agreement for Lease
AGLV	Area of Great Landscape Value
AHD	Acoustic Harassment Device
AHER	Angus Historic Environment Record
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIS	Automatic Identification System
ANSP	Air Navigation Service Provider
AOD	Above Ordnance Datum
ASA	Archaeological Study Area
ASCOBANS	Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas
APS	Annual Population Survey
ATC	Air Traffic Control
AtoNs	Aids to Navigation
ATS	Air Traffic Service
ATDI	Advanced Topographic Development and Images
BAA	British Airports Authority
BEIS	Department for Business, Energy and Industrial Strategy
BERR	Department for Business, Enterprise and Regulatory Reform
BIS	Business Innovation and Skills
BDMPS	Biologically Defined Minimum Population Scales
BSI	British Standards Institute
BT	British Telecom (Radio Network Protection Team)
BW	Bureau Waardenburg
CAA	Civil Aviation Authority
CaP	Cable Plan
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CCA	Coastal Character Assessment
CD	Chart Datum
CEC	Centre for Ecology and Hydrology
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CES	Crown Estate Scotland
CfD	Contract for Difference
CGNS	Celtic and Greater North Sea

Abbreviation	Term
CGOC	Coastguard Operations Centre
CIA	Cumulative Impacts Assessment
CICES	Chartered Institution of Civil Engineering Surveyors
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLVIA	Cumulative Landscape & Visual Impact Assessment
cm	centimetres
CMS	Construction Method Statement
CNS	Communication Navigation and Surveillance
CoP	Construction Programme
CoS	Chamber of Shipping
COWRIE	Collaborative Offshore Wind Research Into the Environment
CO <sub>2</sub> e	CO <sub>2</sub> emissions
CPS	Counterfactual of Population Size
CRC	Control and Reporting Centre
cSAC	Candidate Special Area of Conservation
CTV	Crew transfer vessel
CZTVs	Cumulative ZTVs
dB	Decibels
DC	Direct current
DCC	Dundee City Council
DCF	Data Collection Framework
DECC	Department of Energy and Climate Change
dBht	decibel hearing threshold
DGC	Defence Geographic Centre
DIO	Defence Infrastructure Organisation
DMRB	Design Manual for Roads and Bridges
DOC	Declared Operational Coverage
DP	Dynamic positioning
DSC	Digital Selective Calling
DSLIP	Design Specification and Layout Plan
DTI	Department of Trade and Industry
DTM	Digital terrain model
DWR	Deep Water Route
EC	European Commission
ECML	East Coast Main Line
EEZ	UK Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIA Report	Environmental Impact Assessment Report
ELC	East Lothian Council
ELCAS	East Lothian Council Archaeology Service
ELHER	East Lothian Historic Environment Record
EMF	Electro Magnetic Field
EMR	Electricity Market Reform
EPS	European Protected Species

Abbreviation	Term
ERCoP	Emergency Response Co-operation Plans
ES	Environmental Statement
ESAS	European seabirds at Sea
Esk DSFB	Esk District Salmon Fishery Board
EU	European Union
FAO	Food and Agriculture Organisation
FC	Fife Council
FCS	Favourable Conservation Status
FFA	Fife Fishermen's Association
Forth DSFB / FDSFB	Forth District Salmon Fishery Board
HER	Fife Historic Environment Record
FL	Flight Level
FMA	Fishermen's Mutual Association (Pittenweem) Limited
FRS	Fisheries Research Services (now Marine Scotland)
FSA	Formal Safety Assessment
ft	Feet
FTE	Full Time Equivalent
FTOWDG	Forth and Tay Offshore Wind Developers Group
FTRAG	Forth and Tay Regional Advisory Group
FUs	Functional Units
GAAC	General Aviation Awareness Council
GDL	Site listed on the Inventory of Gardens and Designed Landscapes in Scotland
GES	Good Environmental Status
GHG	Greenhouse Gas
GIS	Geographic Information System
GPS	Global Positioning System
GVA	Gross Value Added
GW	Gigawatts
ha	hectares
HAT	Highest Astronomical Tide
HDD	Horizontal directional drilling
HER	Historic Environment Record
HES	Historic Environment Scotland
HGDL	Historic Garden and Designed Landscape
HMR	Helicopter Main Route
HPDI	highest posterior density intervals
HRA	Habitats Regulations Appraisal
HVAC	High Voltage Alternating Current
Hz	Hertz
IAMMWG	Inter-Agency Marine Mammal Working Group
IAIP	Integrated Aeronautical Information Package
IALA	International Association of Lighthouse Authorities
ICES	International Council for the Exploration of the Sea
ICOL	Inch Cape Offshore Limited

Abbreviation	Term
IEC	International Electrotechnical Commission
IEMA	Institute of Environmental Management and Assessment
IEEM	Institute of Ecology and Environmental Management
IFP	Instrument Flight Procedure
IHLS	International Herring Larvae Survey
IMO	International Maritime Organisation
INSPIRE	Impulsive Noise Sound Propagation and Impact Range Estimator
IPC	Infrastructure Planning Commission
iPCOD	Interim Population Consequences of Disturbance
IROPI	Imperative Reasons of Overriding Public Interest
JNAPC	The Joint Nautical Archaeology Policy Committee
JNCC	Joint Nature Conservation Committee
JR	Judicial Review
KIS - ORCA	Kingfisher Information Services – Offshore Renewables Cable Awareness
kg	Kilograms
kHz	Kilohertz
kJ	Kilojoules
km	Kilometres
km <sup>2</sup>	Kilometres squared
l	Litres
LARS	Lower Airspace Radar Service
LAT	Lowest Astronomical Tide
LcCA	Lifecycle Carbon Analysis
LCA	Length Cohort Analysis
LCCC	Low Carbon Contracts Company
LCT	Landscape Character Type
LDP	Local Development Plan
LLA	Local Landscape Area
LoS	Line of Sight
LQ	Location Quotients
LSE	Likely Significant Effect
LVIA	Landscape and Visual Impact Assessment
m	Metre(s)
mm	Millimetres
m/s	Metres per Second
MAIB	Marine Accident Investigation Branch
MADS	Manual of Aerodrome Design and Safeguarding
MCA	Maritime and Coastguard Agency
MCEU	Marine Consents and Environment Unit
MCMP	Marine Pollution Contingency Plan
MEHRA	Marine Environmental High Risk Area
Met Mast	Meteorological mast
MGN	Marine Guidance Note
MHW	Mean High Water

Abbreviation	Term
MHWS	Mean High Water Springs
Mil AIP	Military Aeronautical Information Publication
MLS	Minimum Landing Size
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
MMOb	Marine Mammal Observer
MMMP	Marine Mammal Monitoring Plan
MOD	Ministry of Defence
MPA	Marine Protection Area
MPS	Marine Policy Statement
MRCC	Maritime and Rescue Co-ordination Centre
MRP	Mainstream Renewable Power
MS	Marine Scotland
MSFD	EU Marine Strategy Framework Directive
MSL	Mean Sea Level
MS-LOT	Marine Scotland Licensing and Operations Team
MSS	Marine Scotland Science
μPa	Micropascal
MTI	Moving Target Indicator
MU	Management Unit
MV	Medium voltage
MW	Megawatts
NATS	National Air Traffic Services
NAIZ	Non-Automatic Initiation Zone
NCN	National Cycle Network
NEEMA	North-east England Management Area
NERL	NATS En-Route plc
NGET	National Grid Electricity Transmission
NnG	Near na Gaoithe Offshore Wind Farm
NnGOWL	Near na Gaoithe Offshore Wind Ltd.
NOAA	National Oceanic and Atmospheric Administration
NM	Nautical miles
NLB	Northern Lighthouse Board
NOTAM	Notice to Airmen
NPS	National Policy Statement
NTS	Non-Technical Summary
NtM	Notices to Mariners
NRA	Navigational Risk Assessment
NSA	National Scenic Areas
NSP	Navigational Safety Plan
OD	Ordnance Datum (Newlyn)
OFTO	Offshore Transmission Operator
O&M	Operation and maintenance
OLS	Obstacle Limitation Surfaces

Abbreviation	Term
OMP	Operation and Maintenance Programme
OfTW	Offshore Transmission Works
OnTW	Onshore Transmission Works
OREIs	Offshore Renewable Energy Installations
OS	Ordnance Survey
OSP	Offshore Substation Platform
OWEZ	Offshore Wind Farm Egmond aan Zee
OWF	Offshore Wind Farm
$\mu\text{Pa}^2\text{m}^2\text{-s}$	Pascal squared, per metre, per second
Pa	Pascal
PAC	Pre-application Consultation
PAD	Protocol for archaeological discoveries
PAM	Passive Acoustic Monitoring
PAR	Precision Approach Radar
PCH	Proportion of Birds at Collision Height
PEMP	Project Environmental Monitoring Plan
PEXA	Military Practice and Exercise Areas
PMFs	Priority marine features
PSA	Particle size analysis
PS	Piling Strategy
PSR	Primary Surveillance Radar
PTS	Permanent Threshold Shift
PVA	Population Viability Analysis
RAF	Royal Air Force
RAP	Recognised Air Picture
RCAHMS	Royal Commission for Ancient and Historic Monuments of Scotland
RCS	Radar Cross Section
RDDS	Radar Data Display Screen
RDP	Radar Data Processor
rms	root mean square
RMSE	Root-mean-square error
RNLI	Royal National Lifeboat Institution
ROCs	Renewables Obligation Certificates
ROVs	Remotely Operated Vehicles
RRH	Remote Radar Head
RSPB	Royal Society for the Protection of Birds
RTC	River Tweed Commission
RYA	Royal Yachting Association
RYAS	Royal Yachting Association (Scotland)
SAC	Special Area of Conservation
SAR	Search and Rescue
SBC	Scottish Borders Council
SBL	Scottish Biodiversity List
SCA	Scottish Canoe Association

Abbreviation	Term
SCADA	Supervisory control and data acquisition
SCANS	Small Cetaceans in the European Atlantic and North Sea
SEA	Strategic Environmental Assessment
SEL	Sound Exposure Level
SEMP	Site Environmental Management Plans
SESplan	Strategic Development Plan for South East Scotland
SEPA	Scottish Environmental Protection Agency
SFF	Scottish Fishermen's Federation
SF <sub>6</sub>	Sulphur Hexafluoride
SIMD	Scottish Index of Multiple Deprivation
SLA	Special Landscape Area
SLVIA	Seascape, Landscape and Visual Impact Assessment
SME	Small and Medium Sized Enterprises (
SMRU	Sea Mammal Research Unit
SMS	Project Safety Management Systems
SMP	Seabird Monitoring Programme
SNCB	Statutory Nature Conservation Bodies
SNH	Scottish Natural Heritage
SOV	Service Operations Vessel
SPA	Special Protection Area
SPP	Scottish Planning Policy
SSC	Suspended sediment concentration
SSMEG	Scottish Marine Environment Group
SSS	Side Scan Sonar
SSSI	Site of Special Scientific Interest
SSR	Secondary Surveillance Radar
STW	Scottish Territorial Waters
SVQ	Scottish Vocational Qualifications
TAC	Total Allowable Catch
TAYplan	Tay Plan Strategic Development Plan
TCE	The Crown Estate (now Crown Estate Scotland (CES))
TMZ	Transponder Mandatory Zone
TRA	Temporary Reserved Area
TS	Transport Scotland
TS(P&H)	Transport Scotland (Ports and Harbours)
TSS	Traffic Separation Scheme
TTS	Temporary Threshold Shift
UK	United Kingdom
UKCS	United Kingdom Continental Shelf
UKHO	United Kingdom Hydrographic Office
UPS	Uninterruptable Power System
V	Volt
VCUs	Vessel capacity units
VHF	Very High Frequency



Abbreviation	Term
VMS	Vessel Monitoring System
VP	Viewpoint
VFR	Visual Flight Rules
VRLA	Valve regulated lead acid
WA	Wessex Archaeology
WDC	Whale and Dolphin Conservation
WROWF	Westermost Rough Offshore Wind Farm
WSI	Written Scheme of Investigation
WWI	World War
WWII	World War II
YPEC	Young Planning & Energy Consenting
ZTV	Zones of Theoretical Influence

## Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>11</b>
1.1	Neart na Gaoithe Offshore Wind Farm .....	11
1.2	Purpose of this EIA Report.....	11
1.3	The Developer of the Neart na Gaoithe Offshore Wind Farm .....	12
1.4	Project Overview .....	13
1.5	The EIA Team .....	14
1.6	Structure of the EIA Report .....	17
1.7	References.....	19

## Table of Figures

<i>Figure 1.1 Site Location .....</i>	<i>Volume 2</i>
---------------------------------------	-----------------

## Table of Tables

<i>Table 1.1 Contact address for NnGOWL .....</i>	<i>12</i>
<i>Table 1.2 Project EIA technical specialist consultants .....</i>	<i>15</i>

# 1 Introduction

## 1.1 Neart na Gaoithe Offshore Wind Farm

1. Neart na Gaoithe Offshore Wind Ltd (hereafter referred to as 'NnGOWL'), a wholly owned subsidiary of Mainstream Renewable Power Limited (hereafter referred to as 'Mainstream'), is developing the Neart na Gaoithe Offshore Wind Farm (hereafter referred to as 'the Project'). The Project is a proposed offshore wind farm located in the outer Firth of Forth, with a maximum generating capacity of 450 megawatts (MW) (see Figure 1.1, Volume 2).
2. The Project will be comprised of the Offshore Wind Farm (the wind turbines, their foundations and associated inter-array cabling); and the Offshore Transmission Works (OfTW) (comprising the Offshore Substation Platform(s) (OSP(s)), their foundations and the Offshore Export Cables).
3. The overall objective of the proposed development is to generate renewable electricity to feed into the national grid, to reduce reliance on fossil fuels, thereby reducing future levels of atmospheric CO<sub>2</sub> and other greenhouse gases.
4. The Project will be connected to the national grid via the Onshore Transmission Works (OnTW), which were subject to a separate planning application (under the Town and Country Planning (Scotland) Act 1997) which was granted by East Lothian Council in June 2013. The permission was subsequently amended by an application under Section 42 of the Town and Country Planning (Scotland) Act 1997 (as amended) in November 2015 and advance construction works were undertaken in August 2016.

## 1.2 Purpose of this EIA Report

5. This Environmental Impact Assessment Report (EIA Report) is provided to accompany the application to the Scottish Ministers for a Section 36 Consent under the Electricity Act 1989 and Marine Licences under the Marine (Scotland) Act 2010. The EIA Report is submitted pursuant to the requirements of The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 and the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. These regulations transpose the amendments made to the Environmental Impact Assessment (EIA) Directive 2011/92/EU by Directive 2014/52/EU and came into effect on 16 May 2017. Since NnGOWL requested a scoping opinion prior to this date, this EIA Report has been prepared in accordance with the transitional arrangements set out within these regulations. Further information on the relevant legislation and the consenting process is set out in Chapter 2: Policy and Legislation.
6. The scope of the EIA Report was developed through the 15/05/17 request by NnGOWL for a scoping opinion from the Scottish Ministers and through consultation with statutory and non-statutory consultees (see Chapter 5: Scoping and Consultation). The Scoping Report (NnGOWL, 2017) which accompanied the request for a scoping opinion is available online via the Scottish Government Marine Licensing website (<http://www.gov.scot/Topics/marine/Licensing/marine/scoping/NnGRev2017>).
7. The Scoping Opinion (Marine Scotland, 2017) was issued by Marine Scotland Licensing Operations Team (MS-LOT) on 8 September 2017 and is also available to download from the same website. Further information on the scoping of this EIA Report and the consultation undertaken is provided in Chapter 5: Scoping and Consultation.
8. This EIA Report provides a description of the Project and its likely significant effects on the environment seaward of Mean High Water Springs (MHWS). The OnTW are not considered in detail by this EIA Report, except where it has been necessary to address intertidal elements or other relevant inter-related effects, as they were subject to a separate EIA that accompanied the application for the OnTW planning permission (as described above in Section 1.1).

### 1.3 The Developer of the Neart na Gaoithe Offshore Wind Farm

9. NnGOWL is the developer of the Project. NnGOWL is a wholly owned subsidiary of Mainstream and was created specifically for the development of the Project.
10. The contact address of NnGOWL is shown in Table 1.1 below:

Table 1.1 Contact address for NnGOWL

Contact Address
<p><b>Neart na Gaoithe Offshore Wind Limited</b>  <b>c/o Mainstream Renewable Power Limited</b>  <b>2 West Regent Street</b>  <b>Glasgow</b>  <b>G2 1RW</b></p>

11. Mainstream was founded by Eddie O'Connor in 2008 to develop wind and solar plants around the world. The company has a global development portfolio of over 9 Gigawatts (GW), consisting of both onshore (wind and solar) and offshore wind projects across four continents.
12. Collectively, Mainstream has over 600 years of combined experience in those areas critical to project development. Mainstream has a set of values which create a strong foundation for decision making at the project and company level. These values include a focus on working with others and respecting those that the organisation works with, and these have been reflected in the extensive consultation carried out for the Project. Mainstream's values are illustrated in the box below, and further information is available at [www.mainstreamrp.com](http://www.mainstreamrp.com).

#### Mainstream Renewable Power: Values

- **Safety:** We believe in a safe environment for all our people.
- **Respect:** We believe in showing personal respect for everyone we deal with.
- **Working Together:** We believe that by working together as a team, we deliver more.
- **Entrepreneurship:** We believe that an entrepreneurial approach will find the solutions others can't see.
- **Sustainability:** We believe in a sustainable approach to everything we do.
- **Innovation:** We believe that by embracing innovation we will stay ahead of the game.
- **Integrity:** Integrity is always doing the right thing, even when no-one is watching.

13. Health and Safety is integral to all that Mainstream does. Ensuring a safe working environment for personnel and the public is Mainstream's primary concern. In addition to ensuring all necessary and relevant legislation is adhered to, Mainstream applies its certified Integrated Management System to all operations.
14. The company has extensive offshore wind experience and was successful in progressing the Hornsea Zone off the east coast of England, developed by SMart Wind - a joint venture with Siemens Projects Ventures and investor DONG Energy (now Ørsted). In 2010, SMart Wind won The Crown Estate's Round 3 tender to develop the Zone. The project reached a number of milestones including consent for Project One (1,200MW), Project Two (1,800 MW), and the delivery of the very successful SMart Futures schools programme. In February 2015, DONG Energy bought 33% of the Hornsea Zone and in August 2015 they exercised the right to purchase the remainder of the Hornsea Zone.

15. Mainstream is also actively developing wind and solar plants onshore in the US, Canada, Chile and South Africa.

## 1.4 Project Overview

### 1.4.1 Project Background

16. In May 2008, The Crown Estate (TCE) (now Crown Estate Scotland (CES)) invited developers to bid for potential offshore wind farm sites within Scottish Territorial Waters (STW). Following the bid, TCE offered exclusivity agreements for ten sites around Scotland, with the potential to generate over 6 GW of offshore wind power. Mainstream was awarded one of these exclusivity agreements for the site now known as Neart na Gaoithe.

#### 1.4.1.1 Original Application and Consents

17. NnGOWL submitted an application for consent under Section 36 of the Electricity Act 1989 and for associated Marine Licences under the Marine (Scotland) Act 2010 in July 2012. The application was supported by an Environmental Statement (ES) and subsequently in June 2013, by an Addendum of Supplementary Environmental Information (hereinafter referred to as the 'Addendum').
18. The Section 36 Consent and the Marine Licences were granted by the Scottish Ministers in October 2014, following over five years of project development, including environmental surveys, engineering design studies and wide-ranging stakeholder engagement. The development as consented in October 2014 is hereafter referred to as 'the Originally Consented Project'.
19. In 2015, NnGOWL applied for a Section 36 Consent Variation, seeking to vary the Section 36 Consent in order to modify a number of parameters relating to the wind turbines. Specifically, the variation was sought to allow:
  - An increase in the maximum rated turbine capacity from 6 MW to 7 MW (the maximum generating capacity of 450 MW was to stay the same);
  - A change in maximum wind turbine hub height, from 107.5 metres (m) to 115 m above Lowest Astronomical Tide (LAT); and
  - A change in maximum turbine platform height from 18 m to 21 m above LAT.
20. The Section 36 Consent Variation was awarded by the Scottish Ministers in March 2016. This varied Section 36 Consent and the Marine Licences granted in October 2014 are collectively referred to as 'the Consents' hereafter.
21. The decision by the Scottish Ministers to consent the Originally Consented Project (and 3 other offshore wind farms) in 2014 was challenged by the Royal Society for the Protection of Birds (RSPB) by way of Judicial Review (JR) in January 2015. The Outer House of the Scottish Court of Session ruled in favour of the RSPB in July 2016. The JR decision was appealed by the Scottish Ministers, NnGOWL and the other affected developers at the Inner House of the Scottish Court of Session, and the outcome of that appeal was announced on 16 May 2017 whereby the original JR judgement was overturned. An application by the RSPB to the Scottish Court of Session to appeal to the Supreme Court was refused on 19 July 2017. On 15 August 2017, the RSPB made an application directly to the Supreme Court for permission to appeal. On 7 November 2017, the Supreme Court refused permission to appeal 'on the grounds that the application does not raise an arguable point of law of general public importance which ought to be considered at this time, bearing in mind that the case has already been the subject of judicial decision and reviewed on appeal.'
22. The original consents therefore remain valid. It is NnGOWL's intention to construct either the Originally Consented Project (as amended by the Section 36 Consent Variation) or the Project, but not both.

### 1.4.2 Overview of the Project

23. The Project is located in the outer Firth of Forth, approximately 15.5 kilometres (km) east of Fife Ness (see Figure 1.1 (Volume 2)). The area in which the Project will be located is referred to as the 'Development Area'. This is further divided into two discrete areas referred to as the 'Wind Farm Area', comprising the geographical area where the wind turbines, inter-array cables, OSPs and other associated infrastructure will be located; and the 'Offshore Export Cable Corridor', comprising the geographical area within which the Offshore Export Cables will be located and the landfall area (see Figure 1.1 (Volume 2)).
24. The Wind Farm Area will cover an area of approximately 105 km<sup>2</sup>. A detailed project description is presented in Chapter 4: Project Description, but the following provides a brief overview of the main aspects of the Project.
25. A maximum of 54 wind turbines will be installed in the Wind Farm Area. The turbine foundations will utilise a steel lattice jacket with piled foundation design.
26. In addition to the turbines, up to two OSPs will be installed, and a meteorological mast may also be installed within the Wind Farm Area.
27. Subsea inter-array cables will be required to connect the turbines to each other and to the OSP(s). In the event that two OSPs are installed, there will be interconnector cables installed between the OSPs. A pair of Offshore Export Cables, each 43km in length, will run from the OSP(s) to the landfall point at Thorntonloch, south of Torness Power Station in East Lothian.
28. Underground Onshore Export Cables will connect the Project to a new onshore substation located adjacent to the existing substation for the 'Crystal Rig II' onshore wind farm, where it will then connect to the national grid. The OnTW will also include up to two transition pits at the landfall (landward of MHWS) where the Offshore Export Cables and Onshore Export Cable will be connected. For the avoidance of doubt, onshore infrastructure is the subject of planning permission under the Town and Country Planning (Scotland) Act 1997 (as amended) and does not form part of the Project.
29. Construction activities are anticipated to commence offshore in early 2021 and will last for approximately 2 years.
30. The lease agreement with TCE is for up to 50 years, with the Project potentially operating over this full lease period.
31. At the end of the lease period, decommissioning of the offshore infrastructure will be required. A Decommissioning Programme will be submitted to Scottish Ministers prior to the commencement of construction in accordance with Chapter 3 of Part 2 of the Energy Act 2004.
32. Prior to the commencement of any decommissioning works, the Decommissioning Programme will be reviewed and revised as required to take account of good industry practice at that time. However, it is assumed at this stage that decommissioning would involve the complete removal of most or all structures and materials above the seabed, unless otherwise approved.
33. The decommissioning process is discussed further in Chapter 4: Project Description.

### 1.5 The EIA Team

34. The NnGOWL and Mainstream teams are highly experienced in the development and construction of renewable energy projects. The NnGOWL team has been supported during the EIA process by a number of specialist, independent and suitably qualified consultants.
35. GoBe Consultants Limited has project managed the production of this EIA Report, assisting NnGOWL with the compilation of the baseline data, analysis and interpretation, the assessment process including Cumulative Impact Assessment (CIA), consenting, mitigation and monitoring. GoBe also managed the

production of the Scoping Report (NnGOWL, 2017) which was submitted in support of the request for a scoping opinion.

36. Specialist consultants, listed in Table 1.2, have supported the EIA to date, including consultation with relevant stakeholders and preparation of the specialist chapters of the EIA Report. In line with the requirements of the 2017 EIA regulations, and as required by the Scoping Opinion, Table 1.2 provides a brief summary of the relevant expertise and experience of the technical consultants involved in preparing this EIA Report.

Table 1.2 Project EIA technical specialist consultants

Technical specialism	Consultant	Relevant expertise and experience
<b>Introductory and summary chapters</b>	GoBe Consultants Ltd	GoBe is an environmental and planning consultancy with a focus on providing EIA and consenting services to the offshore wind farm industry. Having involvement since the earliest UK sites, GoBe have been involved in the EIA and consenting of circa 19GW to date. GoBe staff are IEMA or CIEEM members (or working towards membership). GoBe is currently seeking IEMA Company membership.
	Young Planning & Energy Consenting Ltd	Young Planning & Energy Consenting (YPEC) are commercial town planning consultants based in Edinburgh, specialising in the consenting of major electricity and energy infrastructure. YPEC personnel have been involved in the consenting of a number of major energy developments across Scotland and the UK and regularly input to the drafting and co-ordination of application documentation, including EIA Reports. YPEC staff are chartered members of the Royal Town Planning Institute.
<b>Fish and Shellfish Ecology</b>	GoBe Consultants Ltd	See above.
<b>Underwater Noise Assessment</b>	Genesis Oil and Gas Ltd	Genesis is a leading provider of environmental consulting services offering robust, innovative and practical advice to the Energy Sector through: licencing & exploration; design; installation; and operations and decommissioning. We provide environment consultancy services globally spanning offshore to onshore, populated to remote and environmentally sensitive areas.
<b>Marine Mammals and Habitats Regulation Assessment</b>	Pelagica Environmental Consulting Ltd	Pelagica is an independent environmental consultancy providing advice and support in the consenting of offshore energy projects. Pelagica has been involved in the preparation of over 50 EIAs and other consent applications; specialising in assessing potential impacts on birds and marine mammals for developments in the UK and overseas. Having prepared 36 Habitats Regulations Assessments, including 19 for UK offshore wind farms, Pelagica has extensive experience in undertaking comprehensive and robust HRAs

Technical specialism	Consultant	Relevant expertise and experience
<b>Ornithology</b>	Cork Ecology (with input from Bureau Waardenburg)	<p>Cork Ecology is an environmental consultancy specialising in bird surveys and reporting for EIA in both Ireland and the UK. Established in 2001, Cork Ecology staff have been involved in several offshore wind projects in Ireland and the UK, covering survey design, ESAS surveyor training, survey data analysis and EIA.</p> <p>Bureau Waardenburg is an independent research and advice consultancy working in the fields of ecology, nature, the environment and landscape design. Bureau Waardenburg have experience of assessing the effects of a variety of large infrastructures, such as wind turbines, power lines, ports, airports and roads, on birds. Since 1993, Bureau Waardenburg has carried out research into the impact of wind turbines and has studied the spatial and temporal movements of birds at various locations both in the Netherlands and abroad.</p>
<b>Commercial Fisheries</b>	Poseidon Aquatic Resource Management Ltd	<p>Poseidon Aquatic Resource management Ltd (Poseidon) are fisheries consultants working globally providing advice in support of sustainable fisheries and aquaculture, marine planning, and blue growth. Poseidon established in 2001 and has a core staff of five highly qualified technical experts, with a skill set that encompasses fisheries and aquaculture economics, environmental impact assessment, policy and management, capacity development and fisheries certification. Poseidon has a broad experience of delivering commercial fisheries impact assessments for a range of renewable energy developments, from tidal arrays to nationally significant offshore wind farm projects.</p>
<b>Shipping and Navigation</b>	Anatec Ltd	<p>Anatec has extensive experience of carrying out NRAs for offshore installation projects including offshore renewables, oil and gas installations, ports, marinas, cables, interconnectors and marine aggregate dredging in the UK and worldwide. Our key personnel have been at the forefront of the marine hazard analysis and risk management field for the past 15-25 years. In the past ten years, Anatec have completed NRA, PEIR and ES chapters for the majority of Scottish territorial water sites as well as The Crown Estate round one, two, two extension and three projects.</p>
<b>Military and Civil Aviation</b>	Osprey Consulting Services Ltd	<p>Osprey Consulting Services Ltd (Osprey) is a privately held, award winning specialist technical company founded in 2006. Osprey are a highly credible, informed consultancy operating exclusively on aviation projects. The majority of our staff have worked in either operational or influential stakeholder roles and many of them have previously been members of the Regulatory Community. Our services have been developed to apply across the broad spectrum of challenges met by the aviation market: from full system procurements through to regulatory support, specialist studies and due diligence. Osprey has supported over 300 wind farm projects in the UK and overseas which include onshore and offshore developments. Our assessments which cover the whole of a development life cycle include feasibility studies, site impact assessment (including radar line of sight analysis), stakeholder management, evaluation of mitigation options and authoring of technical and EIA documents to support the planning process.</p>



Technical specialism	Consultant	Relevant expertise and experience
<b>Marine Archaeology and Cultural Heritage</b>	Wessex Archaeology Ltd	Wessex Archaeology is the leading provider of marine archaeological consultancy to the offshore wind industry, working on sites throughout the UK and Europe. Wessex are a Registered Organisation with the Chartered Institute for Archaeologists, and the majority of our staff are also members of ClfA, or other relevant professional body such as Fellows of the Geological Society.
<b>Seascape, Landscape and Visual Impact Assessment</b>	Land Use Consultants Ltd	LUC is an IEMA Quality Mark registered environmental consultancy providing planning, impact assessment, landscape design and ecology services to a wide range of public and private sector clients. LUC's team of Chartered Landscape Architects has been providing trusted advice on the design and impact of wind energy and marine renewables for over 15 years.
<b>Socioeconomics</b>	Regeneris Consulting Ltd	Regeneris Consulting is an independent economics consultancy and possesses strong experience in analysing the economic impacts of the UK offshore wind sector. Regeneris has produced ES Chapter Socio-Economic Assessments for eight UK offshore wind farms over the last five years, as well as completing numerous other economic impact reports for offshore wind farms outside of the planning process.

## 1.6 Structure of the EIA Report

37. The EIA Report comprises 17 chapters together with accompanying figures and appendices, and a stand-alone Non-Technical Summary (NTS) document. The full EIA Report is available to download on the Scottish Government Marine Licensing website:  
<http://www.gov.scot/Topics/marine/Licensing/marine/scoping/NnGRev2017>.
38. The EIA Report is set out in a logical and sequential manner. Topics are discussed in full within a single, stand-alone chapter, i.e. the baseline description, impact assessment (alone and cumulative), mitigation measures and conclusions for each receptor.
39. The EIA Report is structured as follows:
- Introduction and background:
    - Chapter 1 – Introduction;
    - Chapter 2 – Policy and Legislation;
    - Chapter 3 – The Need for the Project, Site Selection and Alternatives;
    - Chapter 4 – Project Description;
    - Chapter 5 – Scoping and Consultation; and
    - Chapter 6 – EIA Methodology.
  - Offshore biological environment:
    - Chapter 7 – Fish and Shellfish Ecology;
    - Chapter 8 – Marine Mammals; and
    - Chapter 9 – Ornithology.
  - Offshore human environment:
    - Chapter 10 – Commercial Fisheries;
    - Chapter 11 – Shipping and Navigation;
    - Chapter 12 – Military and Civil Aviation;
    - Chapter 13 – Cultural Heritage;
    - Chapter 14 – Seascape, Landscape and Visual Impact Assessment; and
    - Chapter 15 – Socio-economics.
  - Summary and conclusion:

- Chapter 16 – Summary of the EIA; and
  - Chapter 17 – Summary of Mitigation Measures.
- Appendices:

Appendix number	Appendix title
2.1	Marine Planning Policy Review
5.1	Offshore HDD Construction Noise Assessment
5.2	Construction Noise and Vibration Technical Note
6.1	List of Cumulative Projects
7.1	Benthic characterisation survey report (EMU, 2010)
7.2	Atlantic Salmon – Appraisal of Original EIA Determinations
8.1	Near na Gaoithe Offshore Wind Farm Noise Modelling – Technical Report
8.2	iPCoD Population Modelling Technical Report
8.3	European Protected Species Licence Assessment
9.1	Population and density estimates of seabirds at within the Ornithology Study Area
9.2	Baseline surveys – Summary of key species data
9.3	Collision Rate Modelling Technical Appendix
9.4	Displacement matrices for Forth and Tay Area
9.5	Mainstream Kittiwake and Auk Displacement Study – Westermost Rough (APEM. 2017)
9.6	GPS tracking maps for kittiwake, guillemot and razorbill from CEH tagging studies.
9.7	GPS tracking maps for breeding gannets from Bass Rock.
9.8	Population Viability Analysis (PVA) Technical Report
9.9	Cumulative Assessment Additional Calculations
10.1	Commercial Fisheries Technical Report
11.1	Navigational Risk Assessment
11.2	AIS Traffic Validation Report
11.3	MGN543 Checklist
12.1	Radar Line of Sight Analysis Technical Report
13.1	Gazetteer of Wrecks, Obstructions and Geophysical Anomalies
13.2	Gazetteer of Onshore Setting Receptors
14.1	SLVIA Technical Report

## 1.7 References

- NnGOWL (2017) *Neart na Gaoithe Offshore Wind Farm Scoping Report. May 2017; Doc Ref: [UK02-0504-0673-MRP-NNG SCOPING REPORT 2017-RPT-A1](#)*
- Marine Scotland (2017) Scoping Opinion For The Proposed Section 36 Consent And Associated Marine Licence Application For The Revised Neart Na Gaoithe Cape Offshore Wind Farm And Revised Neart Na Gaoithe Offshore Transmission Works. Dated September 2017. Available from: <http://www.gov.scot/Resource/0052/00524490.pdf>