Natural England's Approach to Offshore Wind

Our ambitions, aims and objectives

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Foreword

Offshore wind expansion is a cornerstone of the UK's Net Zero targets and represents a central aim of the Government's 'Green Industrial Revolution'. As of early 2021, approximately 10 GW capacity is operational, with much more at various stages in the development pipeline. By 2030, Government has committed to produce 40 GW of energy from offshore wind (including 1 GW from floating wind), and by 2050 the total targeted could rise to at least 100 GW. Meeting this target will require deployment of more than 3 GW a year, equating to approximately one 12 MW turbine installed every weekday throughout the remainder of the decade.

As the sector plans for this massive growth it is timely for Natural England to review its approach to offshore wind. We are the statutory advisor for nature conservation and landscape for development planning cases, and bring many years of experience advising the offshore wind sector on these issues.

Here we articulate our views on how to meet some of the environmental challenges presented by offshore wind expansion in the form of aims and objectives, which can serve as a springboard for collaborative discussion and a template for strategic solutions[1]. Our deep understanding of the issues relating to nature means we are expertly placed to support the various initiatives and programmes already beginning to address these challenges, in close collaboration with Government and other partners. Ultimately the goal of our new approach is to best develop and support solutions which allow nature to thrive alongside renewable energy growth in line with Government's 25 Year Environment Plan and Green Industrial Revolution aims.

We want to share our approach in order to:

- Set the direction for Natural England's engagement with offshore wind and provide a framework for an organisational action plan;
- Establish aims and objectives around which strategic solutions for the sector can be designed to benefit and enhance nature;
- Catalyse discussions with our partners and stakeholders to explore new ideas and shared goals, and establish Natural England's role in helping to achieve them; and
- Maximise the value of our expertise to support the initiatives and programmes already underway for offshore wind.

Marian Spain

Chief Executive, Natural England

[1] I.e. changes to approaches, systems and ways of working operating at wide temporal and spatial scales

Our vision

Thriving marine and coastal nature[2] alongside low impact offshore wind energy, tackling both climate and biodiversity emergencies




Bolt Tail © Natural England / Peter Wakely. Black-legged kittiwake © Natural England / Paul Glendell. Thornback ray © Natural England / Tom Daguerre. Common dolphins © Pip Raud Photography

We know that marine nature is currently often faring poorly, responding negatively to multiple human pressures including climate-driven impacts; for instance, despite progress, Good Environmental Status has not been fully reached for seven of the 11 UK Marine Strategy indicators[3]. In responding to the twin challenges of climate change and nature recovery, renewable energy has a key role. The intention of our Approach to Offshore Wind is to use our expertise and experience to support existing and new initiatives and programmes led by Government, the Crown Estate, and other key partners, as well as to direct our own leadership contribution to the sector.

[2] Our definition of nature includes natural beauty, wildlife, geology, and cultural connections with nature.

[3] Incorporating indicators relating to biodiversity and food webs assessing marine life components such as seals, cetaceans, seabirds and benthic habitats, as well as e.g. marine litter and non-indigenous species (Marine Strategy Part One: UK updated assessment and Good Environmental Status (October 2019)); differences between indicators mean data availability or temporal lag may influence status in some cases.

We believe thriving marine and coastal nature is fundamental to human health, wealth and happiness. Our network of Marine Protected Areas provides the building blocks of ecological connectivity for our most valued habitats and species, but nature recovery is also important for our wider seas and oceans. Nature will thrive when we achieve healthy, clean and biologically diverse seas, meaning:

- Our most precious wild landscapes, often intertwined with the sea, are conserved and enhanced;
- Our marine habitats function effectively so that our kelp forests, coral gardens and muddy, rocky and sandy seabeds teem with life, supporting everything from sea-cucumbers and bristle-worms to sand eels and rays;
- Our populations of marine mammals, including porpoises, dolphins, whales and seals, are able to access the most important sea areas for their natural behaviours such as feeding, social interaction and breeding;
- Our seabird and waterbird populations can forage plentifully and reproduce successfully without additional anthropogenic drivers of decline, so that familiar icons of the coast and sea like curlews and kittiwakes continue to bring joy to people; and
- Our 'blue carbon' habitats, like saltmarshes and seagrass beds, are restored and functional, sequestering the carbon captured as part of nature-based solutions to climate change.

Our strategic aims and objectives

To articulate our approach to offshore wind, we have identified strategic aims and objectives. These are based around the impact 'mitigation hierarchy'[4] of avoid, mitigate, compensate, with the ultimate vital goal of development leaving nature in a better state, including through emerging mechanisms for nature improvement and enhancement. We aim to use our objectives to stimulate discussions with partners, develop shared goals, and offer best expert support to the sector. We have begun mapping our aims to potential delivery mechanisms and key partners, including the Offshore Wind Enabling Actions Programme (OWEAP) led by Government (Defra / BEIS) and the Offshore Wind Evidence & Change (OWEC) Programme led by the Crown Estate (see 'Working in Partnership with the Offshore Wind Sector' and Annex). Progress towards some of the objectives we identify is already underway through OWEAP, OWEC and other similar initiatives.

Herring gull © Natural England / Allan Drewitt

[4] E.g. CIEEM guidelines 2018

1. Locations of offshore wind farms and cables will avoid irreparable damage

Evidence-based marine environmental planning tools are required to ensure offshore wind farms and infrastructure are located in the right places. These should become embedded into marine planning, so that risks from offshore wind development are considered at the earliest stage, alongside wider use of the seas, in robust strategic marine plans. New evidence to understand environmental and associated consenting risk resulting from direct, indirect and cumulative impacts should drive continuous improvement in planning new offshore wind developments to avoid irreparable[5] environmental damage through evidence-led marine planning. To strengthen this, we will focus on:

a: development of a **risk and opportunity spatial map**, in the form of a 'heat map', that becomes embedded in the wider marine planning system;

b: **strategic and standardised baseline data** collection; and

c: accurate, evidenced, **environmental sensitivity information**, that informs the spatial mapping.

2. Evidence-based mitigation to be implemented at all stages where impact is predicted

Successfully reducing and mitigating impact is dependent upon robust impact assessment. This requires evidenced predictions about environmental responses to offshore wind development, including cumulative impacts, and should result in changes to designs, construction techniques or operational practices so that impact is minimised through the life-span of the wind farm. We want to work with developers and other partners to understand the environmental and engineering challenges to achieving this, to unlock innovation to do things differently where appropriate and feasible, and to help develop mitigation solutions that can form part of strategic planning. We will therefore focus on:

a: **feedback cycles** joining evidence gaps, research and impact assessment;

b: **strategic monitoring** to better understand impact and response, for example through post-consent monitoring opportunities;

c: exploring effective **mitigation solutions** with industry, for design, construction and operation; and

d: building an understanding of decommissioning /repowering issues that can be built into **future-proofed design** to minimise impact.

[5] E.g. where habitats are unable to recover or be replaced, or where populations of species are driven into decline and / or local extinction.

3. Effective, strategic compensation

There will be some situations where various complexities mean it is not possible to avoid and mitigate all predicted impact, and compensation will be required to offset remaining ('residual') negative effects[6]. Designing a strategic system of compensatory measures allows the early stages of development planning to make compensatory requirements clear at plan-level. Compensatory measures must be ecologically effective, and this is more likely if also delivered at a wider strategic scale than the individual development, as bigger, better measures can be implemented. We therefore propose that we will focus on:

a: **evidence to demonstrate likely effectiveness** of compensatory measures; and

b: input to OWEAP to develop **a system allowing appropriate compensation to be delivered at scale** and in advance of impacts.

4. Each new development leaves nature in a better state

For nature to thrive, offshore wind should aim not only to avoid and limit environmental impact but to contribute to nature recovery and enhancement. We want all developments to provide benefits for nature over and above those required for avoidance, mitigation and compensation, contributing to tackling both climate and biodiversity emergencies. Nature enhancement mechanisms include Net Gain[7], an emerging area in marine sustainable development offering great opportunities. To be most effective, a toolkit should set out where and how Net Gain can be delivered at national scale, so these considerations are built into early strategic planning. There are also opportunities for new thinking on infrastructure design that enhances biodiversity, reduction of pressures on biodiversity, and restoration of habitats and species. To realise this, we will work with the OWEAP and OWEC programmes, as well as industry, to focus on;

a: rethinking design of hard infrastructure to build in **biodiversity enhancement** and seeking other nature enhancement opportunities; and

b: agreed marine **Net Gain tools** that can be applied to new offshore wind farms and infrastructure.

New ways of working

Currently, competitive, stepwise systems for developing individual offshore wind projects are not always conducive to strategic working in an increasingly busy marine space with complex inter-dependencies. Marine planning is relatively novel and not always integrated

[6] E.g. under the Habitats Regulations

[7] an approach to development that aims to leave the natural environment in a measurably better state than beforehand.

between sectors, meaning the differing aims of marine users can create challenges. We recognise the urgent need to resolve these, and strong partnerships will be a key part of the solution.

Our proposed approach promotes a strategic shift enabling environmental and associated consenting risk to be managed earlier, at a bigger, spatially joined, scale, in a more comprehensively co-ordinated manner. It should lead to greater certainty about progressing developments and better, more rapid decisions, in line with Project Speed, as well as driving enhancement for nature aligned to the UK Marine Strategy and 25 Year Environment Plan. These shifts could become business as usual for the offshore wind sector. The outcomes we seek are:

- More environmentally-led marine planning, recognising that, amongst many non-environmental complexities, there are some 'hard constraint' areas of environmental importance, where impacts must simply be avoided, and others where mitigation measures can succeed, if planned carefully;
- Significant, ongoing investment, of the type made by OWEAP and OWEC, in the evidence priorities required to assess, avoid and mitigate environmental impact. This includes innovation in design and technology to find environmentally sensitive development solutions;
- Systems of delivering strategic, evidence-based compensation that can be applied at plan-level scale to offset damage, and factor in other marine users; and
- Recovery and enhancement of coastal and marine habitats and species, maximising gains for nature from offshore wind development.

Working in partnership with the offshore wind sector

We welcome further close partnership working across the sector, including other statutory bodies and government departments, environmental NGOs, The Crown Estate, offshore wind developers, the Planning Inspectorate, National Grid, and other marine sectors. Collectively we can explore our aims to ascertain where Natural England can best lead or support the development of strategic solutions.

The table in the Annex is an initial appraisal of how our aims and objectives can align with existing initiatives, and what our role might be in helping to develop these solutions. We welcome further engagement from partners to learn where Natural England may add best value.

Our aims for the offshore wind sector:

- Low impact – avoiding, reducing and mitigating damage wherever possible, and maximising opportunities for gains for nature
- Environmentally sustainable – growing in a strategic way with minimal environmental impact

- Innovative – challenging practices and finding new, better ways of doing things
- Spatially planned – avoiding environmental impact through careful location of infrastructure and mitigation measures, where possible amongst other constraints
- Engaged and working in partnership – continuing and developing positive relationships between key stakeholders
- Evidence-led – working collectively to gather evidence on the key questions to inform decision-making
- World-leading – sharing knowledge and experience across the globe to benefit marine ecosystems

Meeting these aims would contribute greatly to UK leadership in delivering clean, renewable energy as part of Net Zero obligations, whilst prioritising nature recovery and enhancement.

Natural England's role in offshore wind

Natural England's purpose is to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development. In carrying out this duty we provide advice to all public bodies and authorities, infrastructure providers and developers and those with an interest in nature.

Natural England's role in the offshore wind sector is to provide advice on the natural environment in England to a range of partners and stakeholders. We have both a statutory and non-statutory role: the former, as a consultee on Nationally Significant Infrastructure Projects including offshore wind farms and marine plans; the latter, as experts and advisors on marine and coastal landscape and ecology issues.

We have a particular role in advising on proposals likely to impact protected species and sites, including those designated for natural beauty (AONBs, National Parks) and wildlife (Sites of Special Scientific Interest, Ramsar sites, Special Protection Areas, Special Areas of Conservation, Marine Conservation Zones).

We work with our sponsor Department, Defra, to deliver elements of the 25 Year Environment Plan and associated marine initiatives including the UK Marine Strategy. We outline our short-term aims for our Sustainable Development Programme in our Action Plan, including focusing on proactive and strategic advice at plan level; building environmental considerations in early; and developing strategic solutions to environmental challenges relating to offshore renewables development.


Jewel anemones © Natural England / Ross Bullimore

In our engagement with the offshore wind sector, we want to be:

- Bold and ambitious – being upfront and open in our advice and wanting more for nature
- Strategic – focusing on the big wins for nature
- Collaborative and inclusive – working in partnership with others to achieve shared goals
- Objective and reasoned – relying on evidence to inform decisions and advice

These values will help us realise our vision for thriving marine and coastal nature alongside low impact offshore wind energy.

We hope these conversations will maximise the benefit of Natural England's experience and expertise, to support efficient planning processes and nature recovery, and ultimately deliver low impact offshore wind energy at scale and speed, alongside thriving coastal and marine nature. We look forward to exploring shared outcomes with those involved in all aspects of the offshore wind sector.

Rampion Offshore Wind Farm © Chris McMullon

Annex – Natural England's role in partnership with the offshore wind sector

The four aims and 12 objectives outlined here align with existing initiatives and programmes. This annex maps some of the synergies between our strategic objectives and some of the existing initiatives in progress (note this is not intended to be an exhaustive list).

Strategic aim	Objectives	Natural England role	Existing initiatives
Avoid irreparable damage	Risk and opportunity map	Lead development of spatial risk mapping tools & environmental sensitivities heat map (bid to OWEC: POSEIDON) Advice and support on avoidance of impact	OWEAP OWEC Marine Planning OTNR
	Strategic, standardised baseline data	Advice and support on evidence requirements Lead data 'best practice' advice	
	Accurate sensitivity evidence	Advice and support to existing initiatives Commission evidence	
Mitigation where impact predicted	Evidence feedback cycles	Advice and support in designing new process	OWEAP OWEC Industry initiatives OTNR OESEA
	Strategic monitoring	Advice and support in designing new process	
	Mitigation solutions	Advice on mitigation requirements (what and where) Support design and testing of new solutions	
	Low impact decommissioning	Advice and support in future-proofing design	
Effective, strategic compensation	Evidence of effectiveness	Commission evidence	OWEAP OWEC Pathways to Growth
	Strategic compensation system	Advice and support on evidence and ecological requirements	
Development leaves nature in better state	Design for biodiversity	Explore and support enhancement opportunities Champion nature-based solutions	OWEAP OWEC Industry initiatives
	Net Gain tools	Support development of Net Gain initiatives	

OWEC: Offshore Wind Evidence & Change; OWEAP: Offshore Wind Enabling Actions Programme; POSEIDON: Planning Offshore Wind Environmental Impact Decisions; OTNR: Offshore Network Transmission Review; OESEA: Offshore Energy Strategic Environmental Assessment

Natural England is here to secure a healthy natural environment for people to enjoy, where wildlife is protected and England's traditional landscapes are safeguarded for future generations.

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